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Illinois State Medical Society

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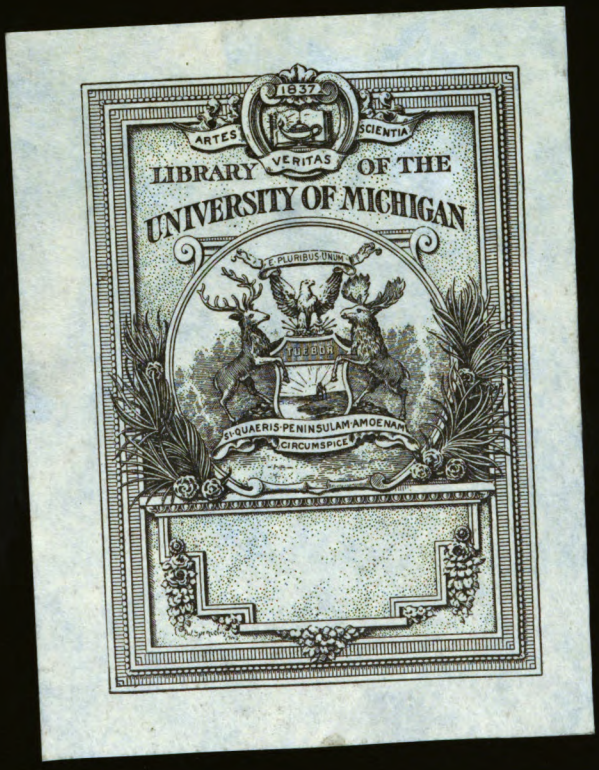

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ILLINOIS STATE MEDICAL SOCIETY.

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TRANSACTIONS

OF THE

THIRTY-SECOND ANNUAL MEETING

OF THE

ILLINOIS STATE MEDICAL SOCIETY

HELD AT

QUINCY, MAY 16, 17, 18,

1882.

CHICAGO:
CHAS. J. JOHNSON, PRINTER AND BINDER,
138 & 140 LAKE STREET.

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OFFICERS FOR THE YEAR 1882-83.

President,

A. T. DARRAH, TOLONO.

First Vice-President,

L. G. THOMPSON, LACON.

Second Vice-President,

W. A. BYRD, QUINCY.

Treasurer,

J. H. HOLLISTER, CHICAGO.

Permanent Secretary,

S. J. JONES, CHICAGO.

Assistant Secretary,

T. M. McILVAIN, PEORIA.

Members of Judicial Council.

One Year.
- ROBERT BOAL, VANDALIA.
- E. R. WILLARD, WILMINGTON.
- A. T. DARRAH, TOLONO.

Two Years.
- C. TRUESDALE, ROCK ISLAND.
- C. GOODBRAKE, CLINTON.
- A. K. VAN HORN, JERSEYVILLE.

Three Years.
- E. INGALS, CHICAGO.
- F. B. HALLER, VANDALIA.
- WILLIAM HILL, BLOOMINGTON.

The Thirty-third Annual Meeting will be held at Peoria on the third Tuesday in May, 1883, beginning at ten o'clock A. M.

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STANDING COMMITTEES.

Practice of Medicine.	N. S. DAVIS, Chicago. B. M. GRIFFITH, Springfield. J. F. TODD, Chicago.
Surgery	J. E. OWENS, Chicago. J. T. STEWART, Peoria. M. REECE, Abington.
Obstetrics.	E. L. HERRIOT, Jacksonville. G. W. JONES, Danville. E. A. INGERSOLL.
Gynecology.....	DAVID PRINCE, Jacksonville. C. CHENOWITH, Decatur. E. S. NORRED, Lincoln.
Ophthalmology and Otology	S. J. JONES, Chicago. J. P. JOHNSON, Peoria. J. G. McKINNEY, Barry.
Drugs and Medicines.	T. J. PITNER, Jacksonville. HERBERT JUDD, Galesburg. P. H. GARRISTON, Macomb.
Necrology	E. INGALS, Chicago. WILLIAM HILL, Bloomington. WASHINGTON WEST, Bellville.

Special Committees.

Simple Renal Catarrh...	I. N. DANFORTH, Chicago.
On the practicability and desirability of separating the work of teaching in medicine and licensing to practice.	D. S. BOOTH, Sparta. E. P. COOK, Mendota. M. A. McCLELLAN, Knoxville.
The diagnostic peculiarities of malignant growths.	CHRISTIAN FENGER, Chicago.
Analysis of a certain class of remedies, concerning which physicians are not positive as to their therapeutic value.	W. L. RANSOM, Roscoe.

Committee of Arrangements.

J. MURPHY, *Chairman.*
A. S. ADAMS.
J. H. REEDER.
J. P. JOHNSON.
I. T. STEWART.
T. M. McILVAIN, *ex officio.*

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DELEGATES.

Adams County Medical Society.

Bassett, M. F.....Quincy.
Guenther, J.....Quincy.
Durant, J. F.....Quincy.
Rooney, M.....Quincy.
Tandy, W. M.....Ursa.
Wagner, J. A.....Quincy.
Williams, J. G.....Quincy.
Williams, R.....Ursa.

Brainard District Medical Society.

Burnham, A. F.....Ashland.
Norred, E. S.....Lincoln.
Watson, W. S.....New Holland.

Brown County Medical Society.

Lucas, G. W.....Mound Station.

Chicago Medical College.

Hay, Walter.....Chicago.

Chicago Medical Society.

Andrews, E.....Chicago.
Davis, N. S.....Chicago.
Fenn, C. T.....Chicago.
Johnson, H. A.....Chicago.
Sargent, A. H.....Chicago.
Tagert, A. H.....Chicago.

Iowa and Illinois Central.

Davison, J. B.....Moline.

Knox County and Military Tract.

Welch, W. W.....Galesburg.

Madison County Medical Society.

Fiegenbaum, E. W.....Edwardsville.

Marshall County Medical Society.

Allen, C. C.....Chillicothe.
Reeder, I. H.....Lacon.

Mercy Hospital, Chicago.

Andrews, E. W.....Chicago.

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McLean Medical Society.

Girten, W. C.....

Military Tract Medical Society.

Corcoran, G. L.....Brimfield.
Judd, H.....Galesburg.
Reece, M.....Abingdon.

Morgan County Medical Society.

Cullimore, T. M.....Concord.
Swope, J. M.....Arenzville.
Prince, A. E.....Jacksonville.
Black, G. V.....Jacksonville.
Stewart, John.....Moline.
Read, N. S.....Chandlerville

Macoupin County Medical Society.

Corr, A. C.....Carlinville.
Dalton, N. B.....Scottville.

Northern Central Illinois Medical Society.

Thompson, L. G.....Lacon.

Peoria City Medical Society.

Adams, Anna S.....Peoria.
Miller, J. S.....Peoria.
Murphy, John.....Peoria.
Will, O. B.....Peoria.

Southern Illinois Medical Society.

Booth, D. S.....Sparta.

St. Francis Hospital.

McIlvain, T. M.....Peoria.

Winnebago County Medical Society.

Tibbitts, L.....Rockford.

Wabash County Medical Society.

McMurray, R. J.....Allendale.

Iowa State Medical Society.

Peck, W. F..... Davenport, Iowa.

Missouri State Medical Society.

Porter, W.....St. Louis, Mo.

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PERMANENT MEMBERS PRESENT.

Barton, P. H.....Danville.
Baxter, W. W.....Hersman.
Chenoweth, C.....Decatur.
Colt, J. D.....Litchfield.
Cook, E. P.....Mendota.
Cowen, J. M.....Hennepin.
Cox, W. M.....Mt. Sterling.
Darrah, A. T.....Tolona.
Diffinbacher, P. L.....Havana.
Ensign, W. O.....Rutland.
Felker, J. B.....Amboy.
Griffith, B. M.....Springfield.
Hatch, Henry.....Barry.
Hill, William.....Bloomington.
Ingersoll, E. A.....Canton.
Jenks, E. W.....Chicago.
Jones, S. J.....Chicago.
Jones, G. W.....Danville.
Kendall, H. W.....Quincy.
McKinney, J. G.....Barry.
Mendenhall, W. O.....Georgetown.
Milekam, Samuel.....Camp Point.
Newcomer, J. W.....Petersburg.
Norred, C. H.....Lincoln.
Owens, J. E.....Chicago.
Owens, D. W.....Hersman.
Rich, K. E.....Wenona.
Sargent, A. M.....Lincoln.
Tebo, George H.....Mt. Sterling.
Todd, J. F.....Galva.
Vanhorn, A. K.....Jerseyville.
Veach, W. H.....Carthage.

MEMBERS BY INVITATION.

Angear, J. J. M.....Keokuk, Iowa.
Bauer, L.....St. Louis, Mo.
Boomer, S. F.....Missouri.
Cohen, L. H.....Quincy.
Core, A. S.....Quincy.
Curtis, C. R.....Quincy.
Fletcher, J.....Mandor.
Fox-Rooney, A. L.....Quincy.
Henry, S.....Camp Point.
Hobbs, W. T.....Mound Station.
Kelley, J. R.....Augusta.
King, E. C.....Payson.
Landon, D. M.....Adams.
Leddie, J. H.....Pittsfield.
McCormick, A. Y.....Fowler.
McClung, S. H.....Mt. Sterling.
McDavitt, V.....Quincy.
Milekam, S.....Camp Point.
Moss, S. C.....Iowa.
Montgomery, E. B.....Quincy.
Nickerson, L. H. A.....Quincy.
Pond, G. V.....Camp Point.
Roeschlamb, N.....Quincy.
Speed, J. N.....Rushville.
Wilson, I. T.....Quincy.
Woods, R.....Quincy.
Yancey, C. H.....Camp Point.

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ILLINOIS
STATE MEDICAL SOCIETY.

THE THIRTY-SECOND ANNUAL MEETING OF THE ILLINOIS STATE MEDICAL SOCIETY WAS HELD IN QUINCY, ON THE 16th, 17th AND 18th DAYS OF MAY, 1882.

At the opening session the Society was called to order by the President, Robert Boal, M. D., of Peoria, at 10.30 A. M.

Prayer was offered by the Rev. Newman Smyth, of Quincy.

Joseph Robbins, M. D., of Quincy, Chairman of the Committee of Arrangements, welcomed the Society as follows:

MR. PRESIDENT AND FELLOW MEMBERS OF THE ILLINOIS STATE MEDICAL SOCIETY:

As you gather here once more after your long absence, to my lot falls the pleasant duty of bidding you once again, in behalf of the medical profession of Quincy, and of Adams County, a hearty welcome to our city.

To us who participated in your last meeting here, it hardly seems that half the life-time of a generation has passed since then; but when we look about us and see the traces left by the fast fleeting years, when we think of the old faces gone, and look upon the new faces that have come, then we realize that it is indeed so, and that Time is up to his old tricks—stealing away our lives unseen, under our very eyes.

But the new faces come in increasing numbers, to remind us that though life is short art is long; that though the individual drops behind, the organic life of the profession goes

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forward; and so the momentary backward swing of our minds towards the past with its memories, brings us by its own rebound again to the present with its duties. Pausing, then, simply to repeat and to emphasize the greeting and welcome of the local profession, I pass on to matters of detail connected with the business of this annual meeting.

The report of the Committee of Arrangements was then read by him as follows:

First. Report of Committee on Practical Medicine.
Second. Report of Committee on Surgery.
Third. Report of Committee on Obstetrics.
Fourth. Report of Committee on Gynecology.
Fifth. Report of Committee on Ophthalmology and Otology.
Sixth. Report of Committee on Drugs and Medicines.
Seventh. Report of Committee on Necrology.
To be followed by the reports of special committees, and the reading of volunteer papers.

And on motion of the Permanent Secretary, the report was adopted, subject to such modification as the Society might from time to time direct.

On motion of the Permanent Secretary, it was ordered that an evening session be held, beginning at 7.30 P. M.

A letter from Dr. M. A. McClelland, of Chicago, was read, expressing his regret at his unavoidable absence.

Also one from the Charity Aid Association, extending an invitation to the Society to visit Blessing Hospital.

Also one on behalf of the officers and medical staff of St. Mary's Hospital, extending to the Society an invitation to visit that Hospital.

A letter from Dr. W. L. Ransom, of Roscoe, regretting his absence, and making certain recommendations regarding work pertaining to the Committee on Drugs and Medicines.

The Society then assigned the following voluntary papers to be read in order after the reports of the standing committees, and the special committees, as assigned for the opening of the afternoon session, viz.:

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"Hot Water Injections in Dysentery," by Dr. J. Robbins, of Quincy.
"Hydrocele in Females," by Dr. E. A. Ingersoll, of Canton.
"Phenic Acid in Cancer," by Dr. E. W. Andrews, of Chicago.
"On Muscular Paralysis Peculiar to Children," by Dr. C. Du Hadway, of Jerseyville.
"On Bovine Disease," by Dr. J. A. Wagner, of Quincy.

President Boal, one of the founders of the Society, then read his address giving a retrospect of the thirty-two years of the existence of the Society (founded June 4th, 1850). The Society manifested its appreciation of the address by a unanimous vote of thanks to the President, and the address was referred to the Committee on Publication.

Dr. L. G. Thompson, of Lacon, another of the founders of the Society, was present, and was invited to take a seat on the platform with the President.

President Boal stated that they two were the only ones living of founders of the Society.

The Chairman of the Committee of Arrangements made a report on credentials of the delegates, and proposed the names of several gentlemen for membership, by invitation, which report was received and adopted, and the Society at 11.45 A. M. adjourned to 1.45 P. M.

AFTERNOON SESSION.

At 1. 45 P. M. the Society was again called to order by the President, and the ex-Presidents of the Society present were requested to take seats on the platform with the President.

The Committee of Arrangements, through its chairman, made an additional report, which was adopted.

Dr. W. O. Ensign, of Rutland, Chairman of the Committee on Practical Medicine, then read the report of that Committee, which was received, discussed, and referred to the Committee on Publication.

The following report from the Judicial Council was then read:

The Judicial Council, to which was referred the protest of Dr. Herbert Judd against the Knox County Medical Society being represented in the annual meeting of the State Society

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convened in Quincy, May 16th, 1882, would respectfully report that no reasons have been presented to the council that should prevent such representation, and the following resolution was unanimously adopted.

Resolved, That the delegates from the Knox County Medical Society be admitted.

The Judicial Council also made the following report, viz:

Dr. W. T. Montgomery, of Chicago, has called the attention of the society to a card published in the newspapers by A. E. Prince, M. D. Dr. Prince admits that his acts—if not unprofessional—have been in bad taste and calculated to lower the standing of the profession. He further says that his attention having been called to the impropriety of his acts, he has entirely discontinued such publication, and that he will in future be careful to observe the code of ethics, in its spirit and letter.

With this explanation and pledge on his part, the following resolution was adopted:

Resolved, That the charges be dismissed, and that Dr. Prince be received as a delegate.

The report of the Committee on Surgery was then read by Dr. E. W. Lee, of Chicago, which was discussed and referred to the Committee on Publication.

Dr. E. Ingals then read a voluntary paper by Dr. E. F. Ingals, of Chicago, on "Obstructions in the Larynx and Trachea," which was also referred to the Committee on Publication.

The report of the Committee on Obstetrics was then read by Dr. J. B. Davison, of Moline, chairman.

A supplemental report by Dr. A. C. Corr, of Carlinville, from the same committee was then read. Both were received, discussed and referred to the Committee on Publication.

Dr. W. H. Veatch, of Carthage, then reported verbally two peculiar cases in obstetrics, of which he was requested to furnish the society with a written report to be referred to the Committee on Publication.

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After further discussion of the papers presented, the Society at 6 P. M. adjourned.

At 7:40 P. M. the President again convened the Society, and further discussion on the report of the Committee on Obstetrics occurred.

Separate reports were then read by Dr. M. A. McClelland, of Chicago, Dr. D. S. Booth, of Sparta, and Dr. E. Ingals, of Chicago, of the Committee on Medical Legislation, which were received, discussed and referred to the Committee on Publication.

The report of the Committee on Necrology was then presented by Dr. E. Ingals, of Chicago, Chairman. It was received and referred to the Committee on Publication.

At 10 P. M. the Society adjourned to Wednesday at 9:30 A. M.

WEDNESDAY, MAY 17th.

At 9:30 A. M. the Society was again called to order by the President. The minutes of the preceding day were read and approved. A recess of fifteen minutes was then taken for the purpose of selecting a Nominating Committee.

The following is the committee selected:

COMMITTEE ON NOMINATIONS.

	COUNTY.		COUNTY.
A. T. DARRAH	Champaign.	J. G. MCKINNEY	Pike.
C. CHENOWETH	Macon.	E. A. INGERSOLL	Fulton.
S. T. MCDERMITH	Shelby.	E. S. DELBY-NORRED	Logan.
P. L. DIEFFENBOCKER	Mason.	J. B. DAVISON	Rock Island.
W. HILL	McLean.	W. O. MENDENHALL	Vermilion.
B. M. GRIFFITH	Sangamon.	N. S. DAVIS	Cook.
W. WEST	St. Clair.	W. E. GILLILAND	Adams.
E. W. FIEGENBAUM	Madison.	G. V. BLACK	Morgan.
GEO. H. TEBO	Brown.	A. K. VAN HORN	Jersey.
I. H. REEDER	Marshall.	N. S. READ	Cass.
J. M. COWEN	Putnam.	A. C. CORR	Macoupin.
J. F. TODD	Henry.	JOHN MURPHY	Peoria.
HERBERT JUDD	Knox.	W. H. VEATCH	Hancock.
P. H. GARRETSON	McDonough.	J. SPEED	Schuyler.
JOHN WRIGHT	De Witt.	L. TIBBETS	Winnebago.
J. W. NEWCOMER	Menard.		

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The committee retired for work and the discussion of the subject of Medical Legislation was resumed, and after some further consideration the report of the Committee on Medical Legislation was referred to the Committee on Publication. The report on gynecology was then read by the Chairman, Dr. E. W. Jenks, of Chicago, and discussed, and referred to the Committee on Publication. At 11:50 the Society adjourned to 1:30 P. M.

AFTERNOON SESSION.

At 1:30 the President called the Society to order.

The report on ophthalmology and otology was then read by the chairman, Dr. A. E. Prince, of Jacksonville, and received and discussed by Dr. J. P. Johnson, of Peoria. The report was then referred to the Committee on Publication.

A telegraphic greeting from the Missouri Medical Society was then received and read. A communication from Dr. G. W. Nesbitt, of Sycamore, of the Committee on Gynecology, regretting his unavoidable absence, was read. Also, one from Dr. J. H. Hollister, of Chicago, Treasurer, regretting his absence, and making his annual report to the Society, which was received and referred to the Committee on Publication, viz:

TREASURER'S ANNUAL REPORT.

The Treasurer herewith submits to the Society his nineteenth annual report for the year 1881–82.

JOHN H. HOLLISTER, *Treasurer*,

In acc't with ILLINOIS STATE MEDICAL SOCIETY.

1881.	*Dr.*	
May 15.	To balance in treasury, as per last report	$ 492 18
" 19.	To receipts at Chicago, (see Mem. A)	597 00
1882.		
May 15.	Collections during the year, (see Mem. B)	241 00
	Total amount	$1,330.18

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1881.	*Credit by payments as follows:*		
May 31.	Blakely's bill, printing	$ 4 30	
June 10.	Johnson's bill for circulars	4 50	
July 5.	S. J. Jones' postage account	3 04	
Aug. 2.	Johnson, 350 volumes Transactions	409 27	
1882.			
May 15.	Treasurer's account, (memoranda B)	53 50	
	Secretary's account		$474 61
	Balance in treasury		$855 47

Respectfully submitted,

JOHN H. HOLLISTER, *Treasurer.*

Examined and found to be correct.

S. J. JONES, *Permanent Secretary.*
WM. A. BYRD, *Assistant Secretary.*

A communication from Dr. C. T. Reber, of Shelbyville, was received, accompanying a paper entitled, "A Search for the so-called Malarial Germ," which was referred to the Committee on Publication.

The report of the Committee on Publication was then read, as follows:

QUINCY, ILL., May 17, 1882.

The Committee on Publication reports that the volume of Transactions of the Society was prepared with care, in accordance with the wishes of the Society. Three hundred and fifty copies were printed, and one copy forwarded to each of the members whose dues for the year had been paid; one copy sent to each State Medical Society, and one copy to each of several prominent medical journals. A few copies still remain on hand.

The cost of printing and binding the Transactions was $409.27, as stated in the Treasurer's report.

S. J. JONES, *Permanent Secretary.*
WILLIAM A. BYRD, *Assistant Secretary.*

The Committee on Nominations, through its Chairman, Dr. N. S. Davis, of Chicago, reported as follows:

Committee organized by electing Dr. N. S. Davis, Chairman, and J. B. Felker, Secretary.

The committee would respectfully submit the following named persons to fill the official positions of this Society for the ensuing year:

For President	A. T. DARRAH, Tolono.
For 1st Vice-President	L. G. THOMPSON, Lacon.
For 2d Vice-President	WM. A. BYRD, Quincy.
For Treasurer	J. H. HOLLISTER, Chicago.
For Permanent Secretary	S. J. JONES, Chicago.
For Assistant Secretary	T. M. MCILVAIN, Peoria.

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JUDICIAL COUNCIL.

Three years	E. Ingals, Chicago. F. B. Haller, Vandalia. William Hill, Bloomington.

STANDING COMMITTEES.

Practical Medicine	N. S. Davis, Chicago, Chairman. B. M. Griffith, Springfield. J. F. Todd, Galva.
Surgery	J. E. Owens, Chicago. J. T. Stewart, Peoria. M. Reese, Abington.
Obstetrics	E. L. Herriott, Jacksonville. G. Wheeler Jones, Danville. E. A. Ingersoll, Canton.
Gynecolgy	David Prince, Jacksonville, Chairman. C. Chenoweth, Decatur. E. S. Delby-Norred, Lincoln.
Ophthalmology and Otology	S. J. Jones, Chicago, Chairman. J. P. Johnson, Peoria. J. G. McKinney, Barry.
Drugs and Medicines	T. J. Pitner, Jacksonville, Chairman. Herbert Judd, Galesburg. P. H. Garritson, Macomb.
Necrology	Dr. E. Ingals, Chicago, Chairman. Wm. Hill, Bloomington. W. West, Belleville.

SPECIAL COMMITTEES.

Simple Renal Catarrh	I. N. Danforth, Chicago.
On the practicability and desirability of separating the work of teaching in medicine, and licensing to practice	David S. Booth, Sparta, Chairman. E. P. Cook, Mendota. M. A. McClellan, Knoxville.
The Diagnostic peculiarities of malignant growths	Christian Fenger, Chicago.
Committee of Arrangements	John Murphy, Peoria, Chairman. Anna S. Adams, Peoria. J. H. Reeder, Lacon. J. P. Johnson, Peoria. J. T. Stewart, Moline. T. M. McIlvain, Peoria, *ex-officio*.

Place of meeting, Peoria.

On motion, the report of the committee was adopted.

Dr. W. O. Mendenhall, of Georgetown, then read the report of the Special Committee on the management of the diseases of children, which was received, discussed and referred to the Committee on Publication.

On motion, the Society proceeded to the discussion of the

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questions proposed by the Special Committee, appointed for that purpose, at the last annual meeting, viz: "Is Croupous Pneumonia a local inflammation or a general zymatic disease."

Dr. W. F. Peck, of Davenport, a delegate from the Iowa State Medical Society and Dr. Wm. Porter, of St. Louis, a delegate from the Missouri State Medical Society, were received and invited to take seats on the platform with the President of the Society.

Dr. E. P. Cook, of Mendota, offered the following resolution:

"*Resolved,* That it is the duty of this Society to appoint a committee to take necessary action to memorialize the legislature at its next session that the present law regarding the commitment of insane persons may be repealed, and such laws enacted as shall be in accordance with the spirit of philanthophy that characterizes the present age."

Which was discussed and made the special order for further consideration on Thursday morning.

On motion of Dr. E. P. Cook, of Mendota, the Society ordered that a message of greeting be sent to the Southern Illinois Medical Association, also in session, which was sent and a greeting in return was received from that Society and read.

A message of greeting was also sent to the Missouri State Medical Society.

Dr. E. P. Cook, of Mendota, also offered the following resolution, which was seconded and unanimously carried, viz:

QUINCY, ILL., May 17, 1882.

WHEREAS, The fact of the sudden and untimely death of Professor John T. Hodgen, M. D., of St. Louis, Missouri, has been communicated to the Illinois State Medical Society, now in session at this place; therefore,

Resolved, That in the death of so distinguished a surgeon as Dr. Hodgen was universally admitted to be, having an enviable reputation both at home and abroad, this Society recognizes in his death that the medical profession has lost one of its most eminent members.

Resolved, That this resolution be made a part of the record of this Society, and that a copy of it be sent to his family.

At 6 P. M. the Society adjourned to Thursday at 9 A. M.

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THURSDAY MORNING.

At 9 A. M. the President again convened the Society, and the minutes of the meeting of the previous day were read and adopted.

On motion of Dr. N. S. Davis, of Chicago, the special order of business, as assigned, was suspended to hear voluntary papers prepared to the Society.

Dr. Joseph Robbins, of Quincy, then read a paper on "Hot-water Injections in Dysentery," which was received and referred to the Committee on Publication.

Dr. E. A. Ingersoll, of Canton, then read a paper on "Hydrocele in the Female," which was also received and referred to the Committee on Publication.

Dr. E. W. Andrews, of Chicago, then read a paper on "Phenic Acid in Cancer," which was received, discussed and referred to the Committee on Publication.

Dr. A. K. Van Horn, of Jerseyville, then read a paper prepared by Dr. C. Du Hadway, of the same place, on "Muscular Paralysis Peculiar to Children," which was received, discussed and referred to the Committee on Publication.

The permanent Secretary then stated that by accident the name of the Jersey County Medical Society had been omitted from the list of Societies represented at the annual meeting of the preceding year.

Dr. J. A. Wagner, of Quincy, then read a paper on "Bovine Disease," which was received and referred to the Committee on Publication.

The Permanent Secretary then read a communication from Dr. J. H. Hollister, of Chicago, suggesting that the biographies of the members of the Society be published.

On motion of Dr. G. W. Jones, of Danville, that a committee of five be appointed to report on the recommendations of Dr. Hollister, the chair appointed Dr. G. W. Jones, of Danville; Dr. W. A. Mendenhall, of Georgetown; Dr. M. A. McClel-

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land, of Chicago; Dr. A. C. Corr, of Carlinville; Dr. S. J. Jones, of Chicago.

Dr. J. P. Johnson, of Peoria moved, and it was carried, that Dr. W. L. Ransom, of Roscoe, be appointed a committee to report at the next annual meeting on the subject of his recommendation, viz: Upon the analysis of "a certain class of remedies concerning which physicians are not positive as to their therapeutic value."

The consideration of the subject of the appointment of a committee to memorialize the legislature of the commitment of insane persons was then resumed.

The resolution was discussed by Drs. R. Boal, of Peoria; Joseph Robbins, of Quincy; G. V. Black, of Jacksonville; G. W. Jones, of Danville, and N. S. Davis, of Chicago.

Dr. Davis offered as a substitute for the resolution of Dr. Cook, the following, viz:

Resolved, That a committee of three be appointed to petition the Legislature of the State in favor of such a modification or amendment of the present law in relation to the commitment of the insane, as will do away with the necessity of bringing cases of alleged insanity into open court for trial, and substitute therefor provisions more consonant with humanity and more in accordance with the laws of other enlightened countries on the same subject.

Which was unanimously adopted, and the chair appointed as that committee Dr. Walter Hay, of Chicago; Dr. Wm. Hill, of Bloomington; Dr. E. P. Cook, of Mendota.

The Society then adjourned to 1:30 P. M.

AFTERNOON SESSION.

At 1:30 P. M. the President called the Society to order.

On motion of Dr. Joseph Robbins, it was ordered that the Permanent Secretary procure a seal for the Society.

Dr. N. S. Davis moved that at 4 P. M. the Society adjourn *sine die*, which motion was carried.

The Society then proceeded to elect delegates to other societies, as follows:

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TO THE AMERICAN MEDICAL ASSOCIATION FOR THE YEAR 1883.

J. B. Felker, Amboy.
J. H. Reeder, Lacon.
C. C. Allen, Chilicothe.
P. H. Garrettson, Macomb.
E. P. Cook, Mendota.
Wm. H. Veatch, Carthage.
C. Du Hadway, Jerseyville.
P. H. Barton, Danville.
H. Judd, Galesburg.
J. H. Hollister, Chicago.
C. Chenoweth, Decatur.
T. J. Pittner, Jacksonville.
J. M. Cowan, Hennepin.
Richard Williams, Marcelline.
C. T. Fenn, Chicago.
John Murphy, Peoria.
I. N. Danforth, Chicago.
J. E. Owens, Chicago.
N. Wright, Chatten.
G. V. Black, Jacksonville.
E. Andrews, Chicago.
J. P. Johnson, Peoria.
B. M. Griffith, Springfield.
D. S. Booth, Sparta.
W. West, Belleville.
F. M. Cassal, Pittsfield.
D. Prince, Jacksonville.
G. W. Cox, Clayton.
K. E. Rich, Wenona.
L. G. Thompson, Lacon.
A. S. Adams, Peoria.
E. A. Ingersoll, Canton.
N. S. Davis, Chicago.
A. T. Darrah, Tolono.
Joseph Robbins, Quincy.
G. W. Jones, Danville.
M. Rooney, Quincy.
S. J. Jones, Chicago.
R. Boal, Peoria.

TO THE IOWA STATE MEDICAL SOCIETY.

Walter Hay, Chicago.
C. G. Truesdale, Rock Island.

TO THE MICHIGAN STATE MEDICAL SOCIETY.

J. H. Hollister, Chicago.

TO THE MISSOURI STATE MEDICAL SOCIETY.

W. A. Byrd, Quincy.

TO THE WISCONSIN STATE MEDICAL SOCIETY.

S. J. Jones, Chicago.

TO THE OHIO STATE MEDICAL SOCIETY.

E. F. Gaston, Chicago.

TO THE INDIANA STATE MEDICAL SOCIETY.

W. O. Mendenhall, Georgetown.

TO THE KENTUCKY STATE MEDICAL SOCIETY.

W. West, Belleville.

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Dr. G. W. Jones, of Danville, offered the following resolution of thanks, which was unanimously adopted:

Resolved, That the thanks of this Society are due, and are hereby tendered to the medical profession and the citizens of Quincy; to the railroads of the state and to the local press, for the courtesies extended to the Society during its present session, and especially to the Committee of Arrangements, for the eminently satisfactory manner in which the duties of that committee have been discharged.

The Permanent Secretary moved, and it was carried, that the same committee, of which Dr. N. S. Davis, of Chicago, is Chairman, be continued for another year, for the purpose of continuing original investigation in professional matters, and that a sum of money, not to exceed one hundred dollars, be appropriated to meet expenses incident thereto.

The Society then proceeded to the discussion of the second question submitted, viz.: "What is the *modus operandi* of anti-pyretics, and what their therapeutic value in fevers," which occupied the balance of the session until the appointed hour for adjournment, at which time President Boal congratulated the Society on its pleasant and profitable session, and introduced the President-elect.

The Society then adjourned.

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THE PRESIDENT'S ANNUAL ADDRESS.

ROBERT BOAL, M. D., PEORIA.

LADIES AND GENTLEMEN—MEMBERS OF THE ILLINOIS STATE MEDICAL SOCIETY:

During a professional life of over half a century I have occupied no position which has afforded me greater pleasure than the one with which you have honored me to-day.

To preside over an association embracing so large a share of the ability, reputation, and intelligence of the medical profession of the state is at all times an honor to be highly prized. But to me it has an added value from having witnessed its birth and watched its struggles through infancy and youth up to manhood.

A generation of human life has almost passed away since a few earnest and active members of the profession—twelve (12) in number—in the library room of the old capitol in Springfield, organized our present association, the Illinois State Medical Society. From this small beginning it has grown to its present proportions, and the twelve has been multiplied into hundreds of active and intelligent members.

To one who has lived through, and witnessed it, the marvelous progress that has been made during the past fifty years in population, wealth, in science and the arts, in liberty, law and human rights, in a degree never before known in history, is a subject of unceasing interest and admiration. I trust I may be pardoned, therefore, if I depart from the custom of addressing you upon subjects usually selected for such occasions, and for the short time I occupy your attention contrast the past with the present, the then and now. It is oftentimes

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well to look back at the past, to pause in the race of human life and measure the path over which we have trod; for the experience of the past, with its joys and griefs, its successes and failures, if wisely used, may teach us lessons of duty for the future. History contains no record of a people whose progress has been so rapid and marvelous as our own. What wonderful changes a half century has wrought! Then our population was a mere handful, now it numbers over fifty (50) millions. Then our resources were undeveloped, now they are vast and varied. Then our territory was comparatively small, now it extends from ocean to ocean. Then our own great state was sparsely populated, now it is the fourth in population, and among the first in enterprise, intelligence and industry. Then the beautiful city in which we are assembled, as well as the one from which I come, were mere hamlets, now they number their thousands of industrious and enterprising men and virtuous, refined and cultivated women. Then the great city which sits so grandly at the head of lake Michigan was a quagmire, now it has become the glory and pride of our state, the wonder of the age, and the admiration of the world. Then our means of communication and travel were by stage coach, canal and steam boat, and were slow and often interrupted, now every part of the country, however remote, is bound together by bands of iron and steel, and the ponderous tread of the locomotive, as it moves with the rapidity of the weaver's shuttle, is heard over every portion of our widespread land, almost annihilating time and distance, making us one people, with one country and one great future. Then intelligence of events, however important, reached us by mail or messenger long after they transpired, now for this purpose we have brought into marvelous use the subtle and mysterious electric current. Then its powers and capabilities were comparatively unknown, now we know the agencies that can control and develop it, and that have, since the first message sent by Miss Ellsworth

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"What hath God wrought," caused it to encircle the globe, and made it the "swift messenger of mortal thought and the obedient instrument of human will." Then the interchange of thoughts was made either by letter or in person, now from our offices, our firesides and places of business we can converse with friends, prescribe for patients, transact business, send and receive messages of congratulation or condolence, and hear sermons, lectures or speeches miles away. But while all this marvelous progress and change excites our wonder and admiration, it is to the contrast between then and now in our own profession to which I ask your attention. Fifty years ago the agencies and facilities for obtaining a professional education were few and far between. Then but two medical colleges were in existence west of the Alleghany mountains—the medical department of Transylvania University at Lexington, Kentucky, and the Medical College of Ohio, founded by that giant in the profession, the late Dr. Daniel Drake—now towns of 15,000 or 20,000 inhabitants boast of at least one medical college. Then a faculty composed of five or six professors, with an occasional adjunct, was deemed a large and imposing one, in numbers at least, whatever else might be said as to its qualifications in other respects. Now in every medical school, however small or obscure, a long list of professors of every conceivable subject in the profession is published, and the doctrine of the division of labor has been carried out to an extent hitherto unknown.

If, half a century ago, our educational facilities were meagre and inadequate, have we not now gone to the other extreme and multiplied our colleges until the supply is greater than the demand? Has not the competition among these numerous institutions lowered the standard of professional qualifications by holding out inducements to students to enter them without the necessary preliminary education, and narrowing the requirements for graduation to such a degree, as to send forth

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illiterate and incompetent men, thereby imposing upon the public and bringing a reproach upon the profession? If we are to be afflicted with this swarm of medical colleges, permit me to suggest whether it would not be wise to utilize them, and circumscribe these evils by placing them in the same relation to the established and reputable metropolitan schools, that in our educational system the high school and academy sustain to our colleges and universities? If we could deprive the majority of these institutions of the power to confer degrees, and let them fit the student for entering medical colleges located in the great centres of population, where only clinical instruction and facilities for dissection can be obtained, as an academic course fits for entrance to a literary college, they might then become useful adjuncts in securing for those who desire to enter the profession the best and highest qualifications, and to the public the services of competent and educated medical men.

Free trade as a doctrine of political economy, and competition to regulate transactions in the commercial world, may be all right in their way, but neither is applicable to medical education. The remedy, if any, rests mainly with the profession. Let it discountenance, as far as practicable, the establishment of colleges where they are not needed. Let it, in the name of humanity, demand and endeavor to procure such regulations and enactments as will deprive these small, obscure and numerous institutions of the power of conferring degrees in medicine, and accrediting the illiterate and incompetent to the community. The people seldom discriminate between those who are called doctors. A doctor with them is a doctor, no matter where or how he has been educated, or whether he has been educated at all; and the superficial, ignorant and cheeky possessor of a diploma, often bought outright, is as likely to share the confidence and patronage of the community as the most competent and meritorious physician. How or when

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this needed reform can be effected it is hard to say. It is to be hoped that the progress of the age and its requirements will wake up the people to the fact that, for its protection and safety, not that of the doctors, such reform is needed.

Then the practice of medicine in all its departments was pursued by the same individual. Now we have specialists for every branch of the science and art of medicine. Then every practitioner was physician, surgeon, obstetrician, gynecologist, ophthalmologist and dentist. Now all these are special subjects of study and practice, and, as a result, wonderful advances have been made in these branches of the profession, and life has been rendered more tolerable and happy, through the skill thus acquired. Then the treatment of disease was generally heroic; calomel, antimony and venesection were the common and indispensable remedies. That they were useful and potent remedial agents, and in their day did much good, is true; but it is equally true that their lavish and indiscriminate employment did great harm. Where is the physician of the present day who would have the temerity to repeatedly bleed a patient *ad deliquium animi*, and keep him nauseated for days upon tartar emetic to cut short a case of pneumonia or pleuritis? Where is one to be found who would administer scruple or half-drachm doses of calomel or a correspondingly large amount of antimony every three or four hours?

Now we have, perhaps, a better knowledge of disease and a better practice founded upon it; yet it may be questioned whether we have not lost much that is valuable by swinging to the other extreme, becoming too largely expectant in our treatment of disease, and abandoning the use of remedies, which, if properly directed, are capable of accomplishing so much good. Who performs venesection now? Some of the older members of the profession may occasionally practice it, for it is not easy to forget the lessons of their youth. To most of the younger it is a relic of the past, and lives only in

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history. It has been aptly characterized as one of the "lost arts" by a distinguished eastern professor, when a few years ago he so ably and forcibly urged its restoration. Then every practitioner was his own druggist and pharmacist. He made his own pills and tinctures, compounded all his medicines, and generally carried all he required, as, with saddle-bags on his arm or astride his horse, he wended his way from house to house, administering to the sick and ailing, always welcome, and often regarded as an angel of mercy, although his homely garb and rough appearance looked anything but angelic. The life of the doctor of that day was one of peril, toil and privation. Now it is one of comparative safety, ease and comfort. Then the country was thinly settled, and his rides were long and solitary. Now it is populous, the doctor's excursions are short, and he seldom lacks companionship. Then his patients were scattered over a wide extent of territory, and his travel was mostly performed on horseback, and its extent and duration was measured only by the power of endurance of himself and his horse. Now the area over which even the country physician travels is limited to a few square miles, and he jogs along in his buggy or carriage without discomfort or fatigue. Then he often, on his errands of mercy, swam his horse over swollen streams, or made a long detour, to enable him to cross or avoid the still more treacherous sloughs, sometimes following for miles a trail or path, which he was liable to lose at any moment, with no living thing around him save the sneaking and cowardly prairie wolf or a herd of startled deer. Now the swollen streams are bridged, the sloughs have been drained, and the broad highway has succeeded the trail and bridle-path. Then often whole days and nights were spent in the saddle, without rest, except a few snatches of sleep, sometimes taken on horseback, sometimes in the lonely cabin of the settler. Now, in the abundance of the material with which the profession is supplied, no such sacrifice of ease and comfort is

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required. Then, at the call of sickness or pain, he promptly responded, whether in the sunshine or the storm, or in summer's heat or winter's cold, traversing in his long and dreary journeys great stretches of prairie, blackened by the annual fires which swept over it, his vision resting upon nothing save the black and cheerless plain spread out before him. The country was new, the doctors young and few in number, and no demand for services could be refused upon any pretext save that of absolute inability to mount a horse. Every emergency, however grave, he was obliged generally to meet alone and unaided, for it was seldom assistance could be procured without too great an expenditure of time and money. Necessity made him self-reliant and courageous. Now cultivated fields, neat and comfortable farm-houses have taken the place of the burnt prairie; doctors are plenty, and many of them are no longer young. Then the doctor was poor in purse, for his services were often paid for in promises, and seldom in money. Greenbacks were unknown, but "wild-cat" was plenty, and of little value, and the fees were small. The best and most reliable circulating medium was the products of the country, called by the people "truck," and with this the doctor was most generally paid. Now, while few physicians are rich, nearly all make a comfortable living; their services command a higher price, and when they are paid for them (which is not always the case), it is in money good everywhere. Then the dependence upon each other, and the kindly life of a new country gave the doctor a strong hold on the affection of those among whom he lived and labored. They loved him while living and mourned for him when dead. He did not know as much then as we do now, and, as we look back, we are sometimes inclined to wonder at his ignorance, and yet some of them were scholarly and educated men, and perhaps knew some things of which we are ignorant, and which it would be profitable to learn.

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What was required for the outfit of a physician of that day, and his mode of practice, is well illustrated by a story told by one of the early presidents of this society, the late Dr. Rouse. On his arrival in the then small village of Peoria he was warmly welcomed by the only physician there. He observed that the resident doctor had a large pair of saddle-bags stuffed tolerably full, his curiosity was excited to know their contents, and upon asking the doctor what they contained, he readily opened them, and disclosed an old spring lancet, three or four pounds of epsom salts, a pound or more of calomel, a similar quantity of nitrate of potash, and from one-quarter to a half pound of tartar emetic.

As Dr. Rouse was a stranger, and was supposed to be unacquainted with the practice in a new country, he kindly undertook to instruct him. He informed him that sometimes when called to see a patient, if he was plethoric, he bled him, and gave a large dose of calomel, followed by epsom salts. At other times, on first seeing the case, if the tongue was coated and nausea was present, he gave an emetic of tartrate of antimony, followed in due time by the calomel and salts. If the stomach and bowels had been thoroughly evacuated, he then gave nitrate of potash and antimony in small and repeated doses, interjecting between them moderate doses of calomel. Then turning to his listener, he said in the most serious manner, "So you perceive, doctor, it is necessary to vary our practice in this new country;" nor is this an overdrawn picture. The practice in that day after venesection was premised, consisted mainly in the administration of calomel and jalap in a large dose when first called to a case, and then continuing the use of calomel alone in small and repeated doses, supplemented by nitrate of potash and James powder or tartrate of antimony as a febrifuge. As a result, ptyalism was the rule, not the exception. Many a doctor of that day labored under the delusion that when his patient's salivary glands were swollen, his

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mouth sore and running a stream, the disease was subdued, and convalescence would follow. So deeply rooted was this belief in the minds of most of the practitioners of that day, that the death of a patient treated to profuse salivation, was a mystery they could not fathom. The only solution ever given was that the mercury had acted locally, and thus failed to impress the system, consequently the patient died. Quinine was sparingly used. The people had a prejudice against it and its remedial powers, as we now know them, were little understood. The recurrence of paroxysms and exacerbations in febrile affections, their periodical return and means of prevention, were seldom taken into account, with a few exceptions, by a majority of the practitioners of that time. The early practice of medicine, especially in our own state, which was then the West, reminds one of the epigram of a century or more ago, upon Dr. Isaac Lettsom, who is made to say of his patients:

> "I physics, bleeds and sweats 'em,
> And if they die, I. Lettsom."

Now, instead of the large and nauseous doses, clumsy pharmacy and crude substances of that day, we have their active principles; and our pills, extracts and various other preparations are so elegant in form and disguised in taste as to be acceptable to the most fastidious stomach.

Then, none of the different schools of medicine, so called, were in existence; the disciple of Hannehman, and the dispenser of infinitesimals was unknown, and the eclectic was a monad. The only school, if it deserves the name, was the one founded by Samuel Thompson, a shrewd but ignorant and illiterate man. His followers called themselves Thompsonian, sometimes botanic, physicians, but the people, with a keen appreciation of the fitness of things, dubbed them steam doctors. His theory of the origin of disease was very simple, and his practice corresponded with it remarkably well. As Hannehman referred the origin of all diseases to one cause, itch, so

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Thompson insisted they all arose from what he called "canker," though what he meant by the term, neither he nor any of his followers could tell. Their efforts, however, were directed to the destruction or expulsion from the system of this imaginary morbific agent. In order to destroy and drive this demon out of the body, he was vigorously attacked internally by lobelia, capsicum or the favorite No. 6, a tincture of capsicum and myrrh, and externally by steam or vapor, generated by means of water thrown upon hot stones, or boiled ears of corn applied to the body until profuse sweating was induced. Hence, they obtained the name of "steam doctors." A portion of their stock in trade consisted in denunciation of the "mineral and calomy doctors," and truth compels the admission that it was not always undeserved. This was the germ from which the self-styled eclectics grew, matured and blossomed. Then, with the exception of some of the Atlantic states, we had few local and no state societies. Now every state in the union, without probably one exception, has its society, numbering among its members the best elements of the profession, all engaged in earnest endeavor to advance its interests and increase its usefulness. But, notwithstanding these praiseworthy efforts on the part of the state societies, many of the best minds in the profession question whether, as they are ordinarily conducted, they are as useful as they might be made. It is thought by many that the time of the societies is too much taken up with voluminous reports from committees, and the reading of papers whose length would make a good monograph upon the subjects of which they treat. That instead of short and condensed papers, giving the practical experience and observation of the writers, what are called exhaustive papers are read, exhaustive in more senses than one, for they not only exhaust the subject, but the patience of the listeners.

A fraction of time only can be devoted to the discussion of the topics introduced. A few of the more prominent and

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active may briefly discuss the subject while the great body of the members remain silent and take no part. In my judgment there is force and truth in these criticisms. If the papers presented contained only the results of the experience and observation of the writers; if they were brief and to the point, and if an opportunity was given to all who desired to participate in the discussion and present their views upon the topics introduced, much valuable knowledge would be gained which is now lost. Upon all subjects connected with medicine and the collateral sciences the investigations should be original, and the results stated concisely and clearly. Too many of the papers read are mere compilations, which, while they may serve to show the research of the writers and their creditable acquaintance with medical literature, are neither profitable, instructive nor interesting. Then no national association and no written or formulated code of ethics was in existence. "Everyone was a law unto himself."

The amenities of professional intercourse and the obligations of medical men toward each other and the public, were then as well, perhaps better observed than now. There was no national or state tribunal to take cognizance of any infraction of ethics, yet it was seldom an unprofessional act was committed. Is it so now? Has not the passion for accumulating wealth, and an ambition that seeks notoriety rather than honorable distinction, that, regardless of the rights of others, casts aside every obstacle that seems to impede its progress, led to such violations of both the spirit and letter of the code as to degrade the profession in public estimation? Then the doctor, next to the minister, was the trusted friend and counselor of every family to whom he ministered. His advice was sought, not only professionally, but upon almost every other matter. He shared their joys, soothed their sorrows, and every passing year added to and cemented the attachment and affection between them. Now the doctor is regarded more in the

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light of a tradesman or mechanic, and is employed from the same considerations that a grocer, tailor or shoemaker is. The strong ties of gratitude and affection which then bound physician and patient together have almost ceased to exist. Their relation is now placed upon a mere commercial basis, and for this the profession is more to blame than the public. Unfortunately there are too many in the profession who neither respect it nor themselves. If they did, they would respect the rights of their brethren engaged in the same pursuit. They would be guilty of no unfair or dishonorable acts, nor practice any petty arts, or indulge in degrading rivalries or jealousies to build themselves up at the expense of a competitor. Then woman was not known or recognized as a practitioner of medicine. If any of the sex engaged in practice, it was as midwives, nurses, or the dispensers of roots and herbs. Now the profession numbers in its ranks many intelligent, educated and able physicians of the other sex. Then they were not admitted as students to any medical college in the land. Now schools have been established for their instruction, and the barriers which custom and education erected have been broken down, and the tendency of the times is to enlarge and widen their sphere of labor. As teachers and practitioners, some are the peers, and others will compare favorably in qualifications with those of the sterner sex. In some of the departments of medicine they are excelled by few of their male associates. And here let it be said, to the credit of the Illinois State Medical Society, that it was among the first to recognize the professional equality of the sexes, by admitting women as members and selecting from their number one of its vice-presidents. By this act it honored woman — honored itself, and set an example worthy of imitation by others.

In the department of surgery what wonderful advances have been made. Then disease and pain rested like a dark shadow over its victims, irradiated by no gleam of hope. Then the surgeon

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required a keen eye, a steady hand and a stout heart, to pursue his cruel task amid the groans and anguish of the gagged and bound sufferer writhing in unutterable pain. Now, thanks to advanced knowledge and the skill thus acquired, but, above all, to that greatest of modern discovery, anæsthetics, human suffering has been alleviated, the knife has lost its terror, for the pain it inflicts is no longer felt, and the most formidable diseases and injuries which fifty years ago were left to end in death, are in many cases amenable to cure. Then the removal of any of the internal organs, or of tumors and growths upon certain external parts of the body, was never undertaken or even thought of by the wildest imagination. Now many of the organs formerly regarded as essential to life have been removed wholly or in part with surprisingly successful results, and the lives of thousands in all parts of the world have been prolonged. Then the sufferer endured unmitigated anguish; now it is no longer felt; every part of the living body is explored, and organs are exposed, which it was then thought could not be done without causing death. All morbid growths, both internal and external, which were then regarded as incurable, are now either arrested in their development or removed. Electricity in its several forms has been brought into use, not only for this but many other purposes, with wonderful success, and the limit of its power and employment has not yet been reached.

Then the surgery of the eye and ear was confined to a few simple operations, with uncertain results. Now these wonderful and delicate organs are treated with so much skill and success that cure of disease and restoration of function is the rule — accidents and organic disease the exception. Then surgical instruments and appliances were comparatively few, and often clumsily constructed; now they are wonderful examples of artistic skill and ingenious invention. Our ophthalmoscopes, laryngoscopes, spectroscopes, and other

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ingenious inventions, now light many of the dark cavities of the human body, and reveal to sight hidden organs and their morbid conditions, thus rendering their treatment or removal more certain and practicable. Then little was known of that branch of medicine and surgery that bears the hard Greek name, gynecology. A vaginal syringe and an astringent wash given to the patient to use *pro re nata* comprised the sum and substance of the treatment of the greater portion of female ailments. The revelations of the speculum and other improved modes of examination and exploration were unknown; now every medical college, however small or obscure, has its professor of gynecology, and the medical and surgical diseases of women are made a special study; and, thanks to the knowledge and skill thus acquired, suffering woman all over the civilized world has been rescued from pain and disease and given a new hold upon life. No department of the profession has made greater progress than this, or whose labors and investigations have been attended with more beneficial results. For what it has done it deserves commendation in all respects save one—its nomenclature. Whatever may be the cause, whether it arises from the nature of the specialty or the idiosyncrasies of its professors, it is hard to say; but for any ailment, every operation or procedure, a name of "learned length and thundering sound" has been ingeniously and laboriously constructed, for which a shorter and simpler one would convey as good, if not a better, idea.

This fondness for the coinage of hard names may be proper, and not a legitimate subject for criticism; yet, in reading works upon gynecology, one cannot sometimes avoid thinking that their authors, like the character in the play, "had been at a feast of languages and stolen all the scraps."

Then in chemistry, pharmacy, the collateral sciences and their application to medicine—to the arts—to the alleviation of suffering and the prolongation of human life, our knowledge

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was comparatively meagre and unsatisfactory, now chemistry has given us that greatest of all modern discoveries as applied to medicine, anæsthetics. It has given us disinfectants and antiseptics, by which noxious gases and other germs of disease are neutralized or destroyed, health promoted and life saved.

Pharmacy now furnishes the palatable and elegant preparations we daily prescribe, instead of the revolting and nauseous ones then in use. Little attention was then paid to that department of medicine; now colleges are established for the education of pharmacists, and instead of ignorant dispensers and compounders of medicinal agents, we have an intelligent and educated body of men thoroughly qualified for their work. Then of hygiene, or the laws which promote individual and public health, little was known or understood; now we know the influence which foul air and bad sewerage has in causing and disseminating disease. Then little attention was paid to the prevention, introduction and spread of epidemic and contagious diseases; now a more effective quarantine rigidly enforced, a more complete isolation of the infected and other prophylactic measures, which a better knowledge of the laws of health have caused to be adopted, have deprived them of much of their terror, and added greatly to the sum of human life. Then in few of the states of the union was attention paid to public health; now many of them have created state boards, and almost every municipality has its health officers and authorities co-operating with them. In our own state the board of health, created by its authority, has, during the few years of its existence, accomplished creditable results. "It has driven a large number of ignorant and fraudulent pretenders from the state, or compelled them to abandon the practice;" and this, too, under the provisions of a "medical practice act," confessedly imperfect, and in many points objectionable. In enforcing quarantine and sanitary regulations, in circumscrib-

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ing and preventing the spread of contagious diseases, notably the small pox epidemic of the present year, the Illinois State Board of Health has exhibited a commendable zeal and discretion, and is entitled to the confidence and support of both the medical profession and the people.

In many other particulars the contrast between the past and present, then and now, might be drawn. The advances in physiology, pathology, and the wonderful revelations of the microscope, are of themselves fruitful themes for consideration. But I am admonished to refrain from trespassing upon your time or exhausting your patience by continuing the subject. Let me say, in conclusion, that judging from the past thus imperfectly sketched, the future for the profession of medicine is full of promise. It is, perhaps, not too much to say, that we may hopefully look forward to the time when one obstacle after another will be overcome, one new and useful discovery after another be made, until no physical evil but death will be beyond the reach of human skill.

Ladies and gentlemen of the society—Indebted to your kindness for the position I occupy to-day; appearing before you as one of the only two now living who aided in the formation of this society; with the memories of half a century thronging around me; worn and wearied with the journey of a long life, now near its end, I heartily thank you for this, the last earthly honor I shall probably ever receive. I trust our present session may be interesting and profitable, and that during the coming years, and long before another generation passes away, the Illinois State Medical Society will have achieved a reputation and exert an influence in the profession worthy of the great state whose name it bears. For yourselves, individually, let me express the hope that each and all will prove loyal to the profession, and by neither word nor act bring dishonor or disgrace upon it, but strive to elevate and make it what it is and ought to be, the highest and noblest of human pursuits.

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REPORT OF COMMITTEE ON PRACTICAL MEDICINE.

W. O. Ensign, Chairman, Rutland.

Mr. President and Members of the Illinois State Medical Society:

Your Committee had early cherished a hope that it might be possible, at this session, to present definite reports from every county in the state, and thus be enabled to draw some conclusions with reference to the topographical relations of prevailing diseases; but he who would seek to make a complete report of the great state of Illinois, and its one hundred and two subdivisions, and have such report embrace all that is implied in the duties of your committee on "Practical Medicine," would discover an immense task before him; one that would require far more time, talent and effort than the ordinary country practitioner could find at his disposal.

A state embracing in round numbers fifty-five and a half thousand square miles, or thirty-five and a half millions of acres, forming probably the largest body of equally fertile soil known; having more than three millions of inhabitants, making it the fourth state in the union in population; possessing the most level surface of any save the states of Delaware and Louisiana; surrounded by a boundary of 1,160 miles, including 855 miles of navigable waters; extending in length nearly 400 miles from north to south, and covering a latitude equal in extent to that from Albany, New York, to Norfolk, Virginia,

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is not one likely to be similarly affected in all its portions, even by epidemics, or one in which every form of prevailing disease can be minutely considered, or even noted, in a report approaching anything like the limits prescribed by our By-laws, even if local reports from every county were at hand to supply the facts.

Your Committee found that although the names of nearly 400 physicians appeared upon its roll of membership, yet thirty-one counties were still unrepresented in this Society, while sixteen others possessed a single member only. This fact, together with a desire to obtain reports from different parts of each county, induced us, in a number of instances, to seek the assistance of members of the regular profession who were not members of this Society. Here we desire to especially return our thanks to those who cheerfully and kindly responded to our inquiries for information, hoping that we may hereafter enjoy their further assistance and co-operation by their becoming active members of our Society.

There are in our state about fifteen cities, including the township of Lake and the village of Hyde Park in Cook County, each having over 10,000 population. With a view of placing certain reports under separate consideration, in distinction from the state at large, we addressed communications to the health departments of each, expressing a desire to that effect and asking such reports. But as few responded, we shall be compelled to consider all together, without particular reference to the municipal character of the locality from which a report may emanate.

The year, which we have sought more particularly to cover, is that of the last three-quarters of 1881 and the first quarter of 1882, and as the duties of this committee do not appear to designate the precise period, we have chosen this for the reason that it embraces such definite portions of the year as are usually employed in making up health-office and other

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vital reports and statistics, and because it gives more time to your committee to receive and compare local reports; an opportunity which might be wanting during a busy professional season, should their report be brought down to a later date.

The remarkably severe and prolonged winter of 1880–81 will not soon be forgotten. The warm season which followed, was unusually dry in many parts of the state, and the winter recently passed proved to be extremely mild, the spring of 1882 opening three to four weeks earlier than that of the previous year. Thus, notwithstanding the fact that the past two winters have furnished almost the two extremes, as regards severity, that we commonly meet with in this state, yet we are able to report that the past year has, in most localities, been noted for less prevalence of disease than the year preceding; and this in contravention of the often expressed popular opinion, that an open winter is usually an unhealthy one. Had it not been that variola, which a year or two previously had shown a marked tendency to spread, as it did in some of the larger eastern cities, seemed inclined to show an epidemic character, on its appearance in the chief city of our state, we might have been able to report a far better condition of the public health. This loathsome pestilence produced in Chicago, for the first quarter of 1881, 80 deaths, followed by 105 for the second quarter. The number reached 249 for the third, to be succeeded by 388 during the fourth, making a total of 822 deaths from small pox in that city alone during 1881.

Our State Board of Health properly issued an order for the vaccination of the pupils of our public schools, in the face of so great danger. Some will always be found ready to offer criticisms and interpose objections to such a step, but who is prepared to estimate the lives thus ultimately saved to their friends and our commonwealth? The Almighty has kindly furnished us with the means of stamping out this

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unwelcome visitor, and yet society is not always willing to avail itself of the remedy, to the complete exclusion of the disease, and refusal and neglect are yet, no doubt, to cost many valuable lives.

To comply with duties assigned us, your committee addressed a circular letter to several physicians in each county, and while our local reports are far from complete from every one, yet those who have made response are so distributed as to very fairly represent the entire state in a general way. The first portion of the queries sent out pertained to the duties specified as belonging to this committee, the remainder had especial reference to variola and vaccination two subjects which had just been compelling the attention of physicians at the date that circular was issued.

The usual diseases incident to our state have been present to a greater or less extent, during the year just passed, and in some localities a few of them are reported to have prevailed in a severe form. Could we vaccinate so as to afford protection against typhoid and typho-malarial fevers, cerebro-spinal meningitis, tuberculosis, pneumonia, croup, pertussis, rubeola, scarlatina, diphtheria, dysentery, entero-colitis and cholera infantum, we should hold at our disposal the means of preventing a very large proportion of the present annual human mortality; but even with so great a blessing in hand, so long as mankind fails to make a more complete and perfect use of the power we now possess against variola, we should rather anticipate that some would still be found ready to neglect the gift and murmur against the manna given.

Typhoid Fever.

This disease, about which so much has been said and written, and so much yet remains to be discovered, still makes its yearly manifestations, it may rather be said than visitations, among us, since it so much more often arises from sources

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within than from causes without the locality in which it appears. The last annual report of the Deputy Health Commissioner of Lake Township, Cook County, which township is in reality the fifth city in population in our state, calls attention to the fact, that an epidemic of typhoid fever, in that place, which commenced in last July and resulted in thirty deaths, had its undoubted cause in the laying of sewers in the immediate neighborhood where the outbreak occurred, during an excessively dry season.

Dr. R. J. Curtis, of Joliet, considers this disease, as well as scarlatina and diphtheria, rather endemic than otherwise, in that city; both being present to a greater or less extent, throughout summer and winter, owing, in his opinion, to the constant local source of infection to be found in diluted Chicago sewage.

Dr. H. H. Long, of Orion, relates a rather remarkable experience with this disease during the past winter, the affection being attended with very great mortality. Two farmers resided on opposite sides of the highway, about twenty rods distant from each other. Each had a large family, including a considerable amount of hired help, and both had their buildings located upon level land. The cellars of their houses contained water for a considerable time during the previous spring. Both farmers kept about their premises large numbers of hogs and cattle. The wells at both houses were dry during the early summer, but later were filled, no doubt with surface water owing to the wet weather, which had succeeded the preceding dry period. Of the water contained in the wells, probably a not inconsiderable portion at least came from about adjoining barn yards and outbuildings. Typhoid fever appeared in both families in November and continued until near the end of January, and attacked in all fifteen persons of whom seven died. In some, cerebro-spinal symptoms, in others obstinate diarrhœa or intestinal hemorrhage and, in a

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large proportion of these cases, a bronchial affection complicated the disease. Typhoid fever was not known to have been prevailing elsewhere in that part of the country at that time, and these cases can only be accounted for by admitting the cause to have been a local one, and that probably the water.

Dr. B. M. Griffith, of Springfield, mentions an epidemic of this disease, which was at first mild in type but later was very severe, and often complicated with pneumonia and cerebral disturbances. There were many relapses and great fatality.

Dr. F. M. Casal, of Pittsfield, notes an increasing tendency to typhoid conditions, since 1875, and that fever of marked typhoid character appeared in 1881, followed by an exceptionally large number of cases confined to low poorly-drained localities. Fortunately, however, there has been but slight fatality.

Dr. J. W. Dora, of Mattoon, mentions a greater prevalence of this fever in a more typical form, than it has before appeared during a quarter of a century. Its character being more fatal and the disease running a more rapid course, especially during the hot months and the excessively dry weather of the past summer season, at which time the fatality reached the very high rate of forty per cent. of the genuine cases of enteric fever.

Drs. Johnson and Wright, of Olney, state that although typhoid fever has been heretofore unusual in their locality, yet, of late, many of their cases showed all the symptoms of typhoid fever, except the usual elevation of temperature.

A considerable number of physicians throughout the state report the prevalence of this disease varying from mild to one of severe character, but generally without excessively fatal results.

In perusing the local reports before us, two peculiarities attract attention with reference to typhoid fever, as it has generally prevailed, during the past twelve months; viz: appar-

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ently more than usual tendency to hemorrhage of the bowels, and increased frequency of cerebral disturbances.

In the treatment of this fever, remedies have always been numerous, but a perfect antidote still remains undiscovered.

Dr. J. P. Matthews, of Carlinville, attributes much of his success to the free use of a drink, consisting of two parts of milk to one part of lime-water, a pint of which he insisted the patient should take every twenty-four hours.

Dr. Casal reports that antiperodic remedies administered, as indicated by the temperature, resulted in appreciably diminishing the fatality of the disease.

Dr. Griffith, when active delirium with loose bowels and a high temperature is present, considers belladonna and a solution of salicylic acid of great value. With these remedies, he says, "the delirium is quieted, the bowels are controlled, and the patient procures a refreshing sleep."

Dr. R. J. Mitchell, of Girard, administered muriatic acid and fl. ext. nux vomica, also turpentine emulsion, giving alcohol and nourishment to meet indications, and applied the cold bath or wet sheet when the temperature exceeded 104°. In one case, when called in at a late date, he failed to control the hemorrhage of the bowels that persisted in spite of ergot or other remedies.

On the other hand, Drs. Geo. Irvin, of Aledo, M. Hurst, of Sweetwater, and Dora, of Mattoon, obtained great advantage from the free use of fl. ext. ergot, in cases of intestinal hemorrhage occurring in the course of this disease.

Drs. McNary and Doak, of Martinsville, find that large doses (grs. xx–xxx) of quinia, given daily to reduce the temperature, in typhoid fever, worked, they say, "like a charm in some cases," and they entertain no doubt but that this remedy, thus employed in connection with cold sponging, when the skin is dry and hot, and the German method of making use of iodine, is the very best treatment for this disease.

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Dr. Dora, who has recently encountered the severest and most fatal epidemic of typhoid fever reported to us, states, that after treating the first few cases in the usual manner of employing diaphoretics, antiperiodics and febrifuges, and noticing a rapid fatal tendency on the increase, he resorted to the more heroic doses of grs. xv–xx of quinia with grs. iii–iv of capsicum, whenever the temperature reached 103.5°, and his experience leads him to urge upon the attention of physicians the fact that grs. xl of quinia given in two doses, in the early stage of this disease, and during the acme of the fever, will accomplish more good, within twenty-four hours, than four times that amount given in smaller doses throughout the febrile state. He also incidentally advises the same remedy similarly employed in the treatment of puerpural metro-peritonitis and phlegmonous erysipelas, as having been proven equally valuable in his hands, after fifteen years experience with its use in these latter affections. For the delirium of the fever, he employs chloral hydrate combined with bromide of potassium frequently repeated until its soporific influence is felt.

Dr. L. L. Leeds, of Lincoln, regards very highly the use of bromide of potassium in both typhoid and typho-malarial fevers, commencing its administration early and continuing it until convalesence has begun. Out of thirty cases, in which it was thus employed, he reports but one death, and that occurred in a case in which this remedy was not administered until a late hour. In no instance, he states, did perforation of the intestines take place.

Typho-Malarial Fever.

Whatever may have been the differences of opinion that have in time past existed in the minds of physicians, as to the appropriateness of the name typho-malarial fever, or the existence of a distinct form of fever to which it was applicable,

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there can be no doubt that the medical profession of this state have now quite generally accepted and are daily making use of this term. Whether this so-styled form of fever consists of typhoid with malarial complications at some uncertain stage of its progress, or malarial fever terminating with typhoid symptoms, or yet a distinct typhoid condition with malaria from first to last throughout its course, we do not propose in this report to discuss, but the impression cannot escape our minds, that the very common employment of this term by the profession of late arises from the fact, that all three of the above conditions are not unfrequently reported as typho-malarial fever. Be this impression true or otherwise, the local reports before us show the presence of the last named fever to a very large extent throughout this state, even rivaling true typhoid fever in its prominence as a prevailing disease.

Dr. C. E. Elliott, of Petersburg, reports a prevalence of this fever complicated with more or less cystitis and suppression of urine, protracting recovery.

Dr. John Wright, of Clinton, notes the appearance of a form of fever of this character so obscure as to render its exact position among known febrile diseases a matter of much difference of opinion with physicians of his locality. It occurred mostly in young persons, ushered in by chills, headache, increase of temperature, loss of appetite, and, in some cases, with nausea and vomiting. Its duration extended from fourteen to thirty days. During the first week the temperature ran up too fast for typhoid fever, but after that period the symptoms did not differ from a true case of that disease. In its treatment, the free use of quinia failed to arrest the attack in every instance, although it was successfully employed to reduce the temperature when above 103°, as was the wet sheet in a few cases. For this latter method of reducing the high temperature of fevers, Dr. Wright entertains an exalted

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opinion, and would encourage a more frequent resort to the employment of cold water.

Drs. T. F. Worrell, of Bloomington, J. M. Henry, of Rockport, and others notice the failure of quinia either to control typho-malarial fever or to add to greater success in its treatment, as it might have seemed reasonable to have expected it to do from the malarial complication.

Dr. J. Bowman, of Flora, mentions having obtained good results from the use of brandy or whisky in full doses, in conditions of great prostration, attended with violent pain in the head, as is sometimes present in cases of this fever.

Dr. Leeds finds bromide of potassium, as previously mentioned when speaking of the treatment of typhoid fever, a valuable remedy.

Dr. W. H. Veatch, of Carthage, believes that the longer the bowels are held in check the better it is for the patient. He reports that in a number of instances, he caused their action to be restrained for a period of twelve days, and always with better results than when they were allowed to move, even as often as every one or two days; in which latter case a greater degree of prostration appeared to follow, as well as a greater liability to complications.

Typhoid and typho-malarial fevers have prevailed with varying frequency and severity throughout the state. As is usual, they have played a prominent part among the disorders which have been present during the year, and no doubt, have proportionately contributed to the fatality that has attended the various diseases occurring within the same period. Some points especially noteworthy, in connection with their prevalence, have been the greater tendency than usual towards hemorrhage from the bowels, as before alluded to, and its frequent treatment with ergot; and to the increasing employment of the wet sheet or cold water bathing for reducing the temperature and controlling the force of the pyrexia; also the

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frequently reported failure of quinia to cut short the typho-malarial forms of fever.

Malarial Fever.

Malarial fever either in its intermittent or remittent character, has not prevailed to the usual extent observed during many previous years. Malaria, in some of its varying conditions, is an ever-present factor entering in to complicate almost all of the various affections prevailing within our state; and hence, the constantly recurring necessity for the exhibition of more or less of antiperiodic remedies, in addition to the usual means of treatment designed to meet almost every other form of disease presenting itself.

Rivaling the preceding fevers for the foremost place in power to afflict humanity, come those disorders which involve the respiratory organs directly, or show their influence upon some portion of the air passages.

Bronchitis.

Bronchitis as a distinct and uncomplicated form of disease is but rarely reported. Dr. H. M. Hall, of Toulon, noticed a severe form—almost an epidemic—which occurred during the months of January and February. Dr. W. H. Johnson, of Johnsonville, met with sixty-seven cases of the acute form, which appeared principally in young persons from one to fifteen years of age, and which was usually introduced by chills and fever, a pulse of 110 and a temperature of 103–4°. Convulsions occurred in seven cases. The disease, although of a very severe character, caused no deaths. It yielded readily to mild sedation and ipecac, as in the following formula:

℞ Fld. ext. aconite rad. . . . m. vi–x.
Fld. Ext. ipac. . . . . m. xii–xv.
Syr. Simp, ad . . . . . ℥. iv—m.
Sig. One drachm every hour.

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Pneumonitis.

Pneumonitis stands among the most certainly recurring affections of our state and climate, and although we have reports before us of the existence of this disease in very many of the counties, fortunately, it has generally presented itself in a much less number of instances and in a milder form than usual. Its greatest fatality resulted among those of advanced years. Dr. Wright of this committee, states, for his own locality, that a greater death rate than previously has attended its prevalence. This is confirmed, by the testimony of other physicians, who say that in nearly every case, which occurred in persons above forty years of age, the attack proved fatal.

Dr. Johnson gives an account of the presense of lung affections, including catarrhal pneumonia, accompanied with a low form of continued fever, and an unusual degree of general congestion.

Exceptionally this disease has shown an increased amount of cases, as is reported by Dr. Hurst. Dr. Leeds notes its form as rather that of broncho-pneumonia; while Dr. W. H. Wilmot, of Lawn Ridge, mentions two instances in which he believes that he has met with a contagious form. That this may, at times, appear to be a contagious disorder cannot be doubted, and indeed a number of the profession have accepted the view that in some cases, at least, it is so; but it would appear that more evidence was yet required, in order to establish such a character, or to distinguish between the contagious, if such exist, and the non-contagious varieties.

Dr. J. W. Hensley, of Yates City, has met with the disease quite frequently in children, although generally terminating favorably; the lower part of the right lung appeared to be the seat of the affection, in a majority of instances. He considers that quinia was an important remedy in the treatment given. He also makes use of hydrarg. submur. and veratrum viride, at some stage, in all his cases.

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Dr. Griffith finds great good results from the employment of ergot during the acute stage.

Dr. Henry mentions this disease as one of the most fatal, especially when occurring in those who, from previous disease or other cause were in a poor physical condition, at the time of its onset. His treatment was ordinarily with a mercurial or saline cathartic, veratrum or aconite until temperature and pulse were reduced, mustard pediluvia and poultices, opium and ipecac, to allay pain, after action of the bowels had taken place, and quinia when acute symptoms had subsided.

Pleuritis.

Dr. J. B. Felker, of Amboy, reports the only instance of more than the usual frequency of pleuritis. It is rarely named by any physician, as a cause of fatal results.

The compound form of broncho-pneumonia is scarcely noticed. An increased death rate from phthisis we here note, is thrice observed, but usually in connection with an increase of the same conditions which contribute to other lung affections. In a similar connection we also find mentioned the usually mild form of febrile action commonly termed catarrhal fever.

Asthma.

In relation to the subject of asthma, we stop only to notice the treatment employed by Dr. G. B. Lester, of Oswego, who in cases accompanied with bronchitis of long standing, and with a large amount of expectoration, has found the most rapid and permanent relief from the uncombined use of fld. ext. grindilla robusta, in teaspoonful doses, given every three hours, and this in the worst spasmodic cases; in other conditions, it was given in connection with bromide or iodide of potassium, as indicated, subsequently continuing the remedy in the same dose three times a day for a considerable period.

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Pertussis.

Pertussis appears to have been unusually mild. Drs. Johnson and Wright relate that subsequent to the prevalence of this disease in their locality, a non-contagious cough, not bronchial in character, and attended by some congestion of the larynx, succeed it. This cough, occurring only among children, was violent, with a clear ringing sound, accompanied with little or no expectoration, no elevation of temperature, and like pertussis, was little influenced by drugs.

Croup.

Not having yet become persuaded that pseudo-membranous croup and diphtheria are really identical disorders, we have continued to employ this old term, as heretofore, and are pleased to be able to state that this disease has not prevailed to any great extent; only one report announcing a more than usual amount.

Dr. Dora makes use of the old remedies hydr. submur. with grs. ii–iii doses of pulv. Doveri. every two hours, with the view of arresting plastic exudation and detaching it when formed from the inner surface of the larynx and trachea. He also incidentally notices the further employment of the same remedies to lessen ovarian engorgement in dysmenorrhœa.

Diphtheria.

We believe that diphtheria has been of less frequent occurrence or of a general milder type than usual, with few exceptions; some of which we will mention.

Dr. Curtiss believes this disease to be endemic, at Joliet, as stated when speaking of typhoid fever.

Dr. I. R. Wells, of Geneseo, mentions a somewhat fatal epidemic, in which the muriate of pilocarpine gave evidence of being a potent remedy in dislodging the false membrane.

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Dr. G. W. Jones, of Danville, notes a severe epidemic, induced, as he believes, among other causes, by the presence of a glucose factory in the vicinity in which the disease prevailed. He treated this affection most successfully with sulphur, carbolic acid, quinia and hydrastis, and in a few instances, with jaborandi; but, with the exception of inhalations, all local treatment was dispensed with.

Dr. Veatch gives an account of a very severe though not very fatal form, not confined to children alone; a peculiarity of which was that it sometimes complicated vaccina. His treatment consisted of lime water, carbolic acid, chlorate of potassium, tr. ferri. chloridi and solut. ferri. per sulph. as gargles, or given through the atomizer. He entirely discards the probang and cauterizations of the throat in the management of this disease.

Scarlatina.

Scarlatina has been remarkably mild and infrequent, much more so, it would appear, than diphtheria. Dr. Wilmot mentions a sudden invasion of this disease during the month of March, which was confined to a neighborhood two miles square and which attacked forty-seven persons with four fatal cases, when it disappeared as suddenly as it came.

Dr. Gilliland, of Coatsburg, reports a fatal epidemic somewhat resembling scarlatina complicated with other symptoms, especially those of a cerebro-spinal character. He also states that for a considerable period prior to the month of February, in almost all cases, among children attacked with acute febrile diseases, the patients suffered with excruciating pains in the head and in the cervical and dorsal regions. From the fact of similar symptoms appearing at the same time to complicate other affections, there would seem to have been a strong tendency present to the development of cerebro-spinal meningitis.

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Rubeola.

Rubeola has generally been very mild. Dr. Park, of Oquawka, announces the fact that this disease has not been absent from Henderson County for an entire year, and that it was in some instances fatal on its first invasion, but of late has proven to be of a milder type. The severest epidemic of rubeola is reported by Dr. Hurst, as occurring in the eastern portion of Menard County. The cases were characterized by unusually severe catarrhal symptoms, and an uncommonly vitiated condition of the secretions, the rash more often being delayed in its appearance until the sixth day, while a very marked tendency toward the development of a typhoid condition was also present.

Rötheln.

Rötheln rarely prevailed or was very mild. Dr. Mathews remarks, that a recent epidemic resembled measles in some instances, much more than did one occurring some fifteen years since which presented more symptoms of scarlatina.

Dr. T. J. Maxwell, of Biggsville, states that in an extensive prevalence during the winter of 1881, this disease appeared to be contagious, and its eruption was much like that of measles in character and distribution, but having more the color of scarlet fever. Previous attacks of rubeola or scarlatina seemed to furnish no exemption from its influence. This hybrid affection, if such be its true character, can have caused but little if any fatality.

Dysentery.

Although an extended drouth prevailed over many portions of the state, during the summer of 1881, yet disorders of the bowels were by no means as frequent and persistent as in many former years. This may be considered to be rather the exception than the rule, since long, hot and dry seasons are commonly believed to be especially conducive to intestinal

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derangements. Dysentery proved to be severe and epidemic in a few instances, but generally a milder and more favorable character is reported of the disease.

Dr. Henry treats this affection with saline cathartics in divided portions, until the bloody and mucous discharges become watery, when he employs the opiates with bismuth in large doses, giving quinia if the case is complicated with intermittent fever.

Cholera-Infantum.

One physician reports that cholera-infantum is the reputed cause of more deaths than any other disease. However, the usual testimony from most localities has been rather in the other direction, for the past year at least.

Entero-Colitis.

Entero-Colitis has not seemed to be so formidable an affection as in most previous years, but the term "cholera-infantum" is perhaps an older and more convenient name under which we fear the profession is still too prone to include this generally distinct form of intestinal disorder; hence, published mortuary reports may often show no adequate number of the actual deaths that occur from entero-colitis.

Dr. Gilliland mentions a serious complication of this disease with cerebro-spinal meningitis, in which six out of seven children attacked died. The usual symptoms in their order were, at first, a seemingly unimportant diarrhœa, followed by occasional vomiting, convulsions, unconsciousness with expressionless eyes, injected conjunctiva covered with pus, rigidity of limbs, opisthotonos, rapid breathing, irregular circulation, very high temperature, paralysis and death. The physician was rarely called until convulsions had appeared.

Cerebro-Spinal Meningitis.

Cerebro-spinal meningitis has been the cause of many

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deaths, yet the epidemics of this disease have not been as extended and severe as frequently occur.

Dr. Mitchell reports a death rate of 87 per cent., the fatal result taking place in three cases noted, in from forty-eight hours to seven weeks. Cerebro-spinal meningitis, as a complication of scarlatina and of entero-colitis, as noted by Dr. Gilliland, we have just mentioned.

Dr. S. T. McDermith, of Cowden, thinks opium of great value and the only safeguard against wild delirium, coma and death.

Other Diseases.

Notwithstanding that long cold rather than mild open winters are considered much more destructive to the lives of the aged, even if *old age* may not be with exact propriety classed among diseases, yet Dr. J. H. Braffett, of Paw Paw, and others, have noticed the fact of the occurrence of an unusual proportion of deaths in persons of advanced years, the number of those above sixty-five, he states, exceeding that of those under ten years of age.

Parotitis has been mild and comparatively infrequent. *Erysipelas* is noticed but twice. *Carcinoma* and *apoplexy* have each received a single mention, as being more frequently met with.

Puerpural fever or *puerpural septicæmia* is stated as having proven fatal in from twelve hours to a few days in a few instances, in one locality.

Winter cholera has been rarely observed. Dr. G. G. Craig, of Rock Island, speaks of its presence, also that of gastro-enteric fever, during the cold months. Dr. J. B. Davison, of Moline, reports ten years favorable experience with the use of morph. sulph. in the treatment of *acute rheumatism.*

New or Unusual Forms of Disease.

Of new or unusual forms of disease, not already considered

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in connection with affections of which they appeared to be modifications, Dr. Curtiss observed thirteen cases of a mongrel form of febrile action occurring among children. The symptoms were a well marked chill, followed by fever, pulse 160, the temperature being highest in the morning, in some instances reaching 106-7°, lowest in the evening, 102° being the average during nine days. The cases were characterized by swelling of the tonsils, gums and lips, the latter becoming fissured and covered with sordes and scabs, which condition formed the chief source of distress. In six of the cases an erythematous eruption spread over a part of the surface. There was no desquamation or diphtheritic exudation in any case. Microscopical examination of the sputa and secretions from the tonsils and gums showed low forms of organisms, but of what varieties is not mentioned. All of the cases recovered.

Dr. Hall gives an account of ten cases with two deaths appearing in a single township, of a disease that was, by some, diagnosed to be scarlet fever, but doubting the diagnosis, he relates the following symptoms: The eruption was confined to the lower extremities and occurred in blotches. The throat affection was decided, but no exudation was present. The submaxillary glands were very much inflamed, but in no case did they suppurate. Desquamation followed the subsidence of the eruption.

Dr. J. D. Whitley, of Petersburg, gives brief mention of having met with a case of hemitinuria or hemo-globinuria from chronic malarial poisoning, the diagnosis of which he was able to verify by microscopical examination.

Dr. Gilliland describes an unusual form of disease, first presenting itself in October, of which he treated at least forty cases. In one instance a boy of five years of age, who had a year previously passed through measles, complained of illness in the morning and vomited several times in the forenoon, followed by a gradual accession of fever. Twelve hours after

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the first illness he had a pulse of 120 and a temperature of 104°, with headache, sore throat, stiff neck, nausea, burning and itching of the skin, and an intense erythematous redness all over the surface of the trunk, but not of the extremities. The tongue was clean, but of a fiery red appearance, and the patient delirious. The following day the nausea had disappeared and a papillary rash, finer and more elevated than that of measles, covered the whole surface of the skin. The third day there was less fever, and the rash was coarser and more distinctly papular. The fourth day fever was gone, rash fading, appetite returning, and patient up and playing. The fifth day, desquamation began, and was completed in about ten days. In some of the other cases the onset of the fever was at once followed by convulsions, unconsciousness; the eyes were fixed and filled with purulent flocculi, neck retracted, limbs rigid, breathing spasmodic, circulation irregular, pulse could not be counted, temperature in one case reaching 109°, and rash appearing only after dissolution, the power of deglutition lost and death following. In still other cases, teeth clenched, strabismus, injected conjunctiva, tetanoid convulsions, and intense erysipelatous inflammation of the face above the mouth, followed by death, were additional symptoms that were present. About one hundred cases occurred during this epidemic, 18 per cent. of which were fatal, and over 10 per cent. dying of cerebro-spinal complications. Desquamation seems to have taken place in the cases not rapidly fatal. A general dropsical condition of the body, or serous cavities, was rarely a sequela of the attack. The affection seemed to be non-contagious, but in a few instances, symptoms pointing towards a contagious character were present. In many of its features it resembled scarlatina, but it was shorter in duration, and the desquamation commenced earlier. The throat affection was trivial. After the second day the rash was more elevated and rougher than that of scarlatina, and it was accompanied with urticarious weals.

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Dr. F. B. Haller, of Vandalia, narrates the history of an unusual form of fever, or one difficult to classify. The onset of the disease in a majority of instances began with one or more chills, while in a few cases its approach was made insiduously. However, all patients were similarly affected with great lassitude, nervous prostration, anorexia, severe pain and muscular soreness,—pain especially observable about the bones and along the spine,—the temperature soon reaching 105-6°, where it remained most of the time until the end of the third week. The duration of the fever was from twenty-eight to thirty-eight days. In a few instances, generally occurring in the cases commencing insiduously, it would subside by the twenty-first day. In these latter cases, however, there was believed to have been a low form of fever present for a week before the patient admitted his illness. The tongue, most of the time, was covered with a brownish or yellowish coat, and in nearly all cases the eyes were somewhat reddened. No sordes accumulated upon the lips or teeth at any time. The bowels were generally constipated throughout the attack, with the occasional exception of a readily controlled diarrhœa. Delirium was often present throughout the second and third week, sometimes remaining to the end. Tympanitis set in in the second week, and about the same period a slight remission would occur in the evening, lasting until the following day, and at the same time the temperature would materially lower and copious perspiration appear, with great weakness and prostration, requiring a free use of stimulants. In a few instances pneumonia complicated the disease running through its usual course. In nearly all cases during some stage bronchitis was present.

The marked peculiarities of this affection were long continued fever, high temperature, frequent feeble pulse, no sordes, no enteritis or ulceration of the bowels, great emaciation, no sequelae and perfect recoveries. The treatment was supporting

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from the first. During the first week small doses of calomel to restore the functions of the liver, were given, and subsequently that treatment which would best seem to meet the indications.

Dr. D. S. Booth, of Sparta, mentions an epidemic of coexisting scarlatina, rubeola and pertussis, in which not only one disease modified another, but when two or more of them united in the same patient, during his illness, they subsequently displayed their combined influence in the sequelae. Doctor Booth has already published an account of this peculiar combination of diseases (St. Louis Clinical Record, p. 225–1881).

Variola and Vaccina.

We have purposely omitted variola and vaccina, in their proper order, when heretofore speaking of other exanthematous diseases, desiring rather to give them a more extended notice, owing to the late unusual interest which has been excited in the minds of all concerning them; also, in order to enable us to give the results of our inquiries. Accepting variola and varioloid to be in reality the same disease, we have thought best to consider variola and vaccina under one topic, not because we believe them in any way interchangeable, but more on account of the intimate relation which they bear towards each other.

We are led to believe that a thorough inquiry after the facts connected with the past year's prevalence of variola, and the frequent performance of the operation of vaccination, with its results throughout the state, would afford much valuable information and practical experience, to both the public and profession. The replies received to the few inquiries in the circular of this committee are sufficient to show that much of general interest would have rewarded patient investigation at the hands of thoroughly competent persons for such work.

We have before alluded to the rapid increase of variola in the city of Chicago during 1881, and we will now add, that

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even before that year had drawn to a close, it was evident that the disease was gradually extending itself over our state, with the same marked inclination to general prevalence, that had characterized it even before its epidemic form had attracted attention in the west.

The sources of supply of the contagion to rural localities has largely been the city of Chicago within, and St. Louis, Keokuk and some eastern points without the borders of our state. The avenues and necessities of commercial intercourse, the common tramp, the itinerant preacher and the embryonic doctor have supplied efficient agencies for its distribution to very many portions of our commonwealth.

As you are all aware, and as has before been alluded to, the State Board of Health issued an order in December last, for the vaccination of the pupils of our public schools. Such action on the part of the board aided materially in calling the attention of the public to this subject, and resulted in the vaccination or re-vaccination of thousands of persons, many of whom did not come within the scope of this order. Municipal authorities, and railway companies and other commercial organizations also took active steps in the matter of vaccination, some of them even ante-dating the order of the State Board of Health, and the grand result from all this has been, that a larger proportion of our citizens than ever before are now protected and the spread of the pestilence has been checked to a very large extent.

The epidemic character of variola should not be forgotten when considering the unusually severe effects that have been so frequently met with during the past few months from the generally simple operation of vaccination. From reports received we are justified in saying, that the cases of variola occurring throughout the state, outside of Chicago, during the period which our report is intended to cover, can only be numbered among the hundreds, and the points of its invasion

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will be found to have been scores. Happily by means of vaccination and quarantine our people have been largely protected against the further spread of this fatal epidemic, and we wish it might be truthfully said that this disease had now ceased to exist within our borders.

Whether any one of the exanthemata affords protection against another of the same class, otherwise than in the case of vaccina against variola, may not be considered definitely settled. To verify or disprove the protective influence of variola over rubeola, we put forth a query in relation to this question. The replies received satisfy your committee that the general belief is that no such power exists in variola.

Vaccina when effective does not always protect from variola but rather modifies it; while varioloid does not always exempt from vaccina, as is testified to by Dr. G. W. Gordon, of Equality, and to which fact we are also able to contribute some further evidence out of our own experience.

It may be said by some, that these are congenerous diseases, and hence should be mutually protective. Whether vaccina be variola transmitted through the bovine system, or a distinct affection, it is not in our province to discuss at this time; but if varioloid does not protect against vaccina, those who believe the latter to be a disease *sui generis* must be allowed this fact to strengthen their argument.

The replies to our query developed the fact that a large share of the profession of our state had not considered the question, or, if they had done so, had not obtained evidence from personal experience to prove or discredit the statement of a protective power for variola against rubeola. From reports received we discover that six neglect to reply to the query; five discredit such protective influence without being able to contribute any direct evidence for such an opinion; forty-five have obtained no evidence in their experience, on either side; one credits as possible; two supply some indirect testimony

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for, while five are able to furnish positive proof against a statement that variola affords such protective influence.

Dr. Dora says that with many other physicians, he has thought for several years that vaccination even produced an immunity, to quite an extent, from malignant scarlatina, as well as rubeola, or at least that it has a modifying effect upon both.

Dr. Irvin states that of thirty-seven cases of variola occurring in the spring of 1864, many of which were among children, he does not recollect of any of them ever having measles.

Dr. Hubbard relates that three children of one family had variola, three other children subsequently born into the same family, having contracted measles, the first three, although thoroughly exposed, did not take the latter disease.

On the other hand, Dr. G. W. Ramsey, of Magnolia, has known several persons, who have had variola, to subsequently contract measles.

Dr. G. W. Jones, while possessing no facts in relation to the question, in his own experience, states that from the oldest practitioner of Vermilion County, he learns that that physician has known of several cases which furnish positive evidence to discredit such a statement.

Dr. Gilliland has met with a number of individuals who have had both diseases; and sometimes one and sometimes the other affection has preceded. He has attended one case of small pox, and subsequently has been called to the same patient with measles; also one person with measles who, at the same time, had well marked evidences of a previous attack of small pox upon his person.

Dr. Griffith has certain knowledge of the fact that rubeola does occur in persons who have previously had variola; while Dr. Booth possesses considerable evidence in the same direction.

It is but fair to conclude, therefore, from the information

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before us, that variola does not justly possess even the credit of a protective influence against rubeola.

That vaccination has been very general over our state, can hardly be doubted, yet three out of sixty-five observers report to the contrary, for their localities; three do not mention the subject, and fifty-nine testify in proof of our conclusion.

The per centage of successful re-vaccinations is variously estimated from one to one hundred, and no sufficient uniformity is shown, by the local reports, on which to base an average rate for the whole; hence, we are also compelled to estimate from what appears to be rather than from rates proven by careful observation. It would appear that of re-vaccinations made with reliable virus, within one to five years after the former vaccination, twenty-five %, five to ten years fifty %, or if a longer time had elapsed, as from ten to twenty-five years, seventy-five % would not over-state the general average observed by most physicians. While these figures are far above the experiences of some of our profession, at the same time they do not reach those of many others, whose estimates are as high as seventy-five to ninety-five % for all cases. There are so many factors that enter into all possible calculations to modify the results in the experience of every physician, that it must be very doubtful, if without the painstaking care necessary to be had, and not likely to be made, we can do otherwise than estimate this matter as best we may.

In several instances successful re-vaccinations are noted in persons having typical scars; or in those who had been vaccinated within the previous year.

Of the effects of vaccination with bovine virus four reports omit to mention their nature, while seven state that they have not, and fifty-four assert that they have been unusually severe. A number state that in this respect they have far exceeded all their former experience. Notwithstanding all this, and in the face of the great amount of unhappy experience of

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the past year, we find that while three do not mention a preference for the kind of virus, and seventeen state or imply a choice for the pure humanized lymph obtained from healthy children, or, in some instances, applied from arm to arm, after the method of Jenner; yet, forty-five pronounce clearly in favor of bovine virus for general use, although a few qualify their statements by saying that the humanized of one to three removes from the bovine virus might not be very objectionable. Six report the humanized virus of such character as to be equally severe in its action and effects as the bovine. Advocates of the humanized virus state that it is much less severe, and is more prompt and certain in its action. If so, it would be especially preferable in an emergency, when a rapid influence of the virus might be an important advantage. Dr. J. Perry, of Crete, adds as another valuable attribute of humanized virus, the length of time which it can be preserved. Among some of the reasons assigned for a preference in favor of bovine virus are the popular prejudices against the humanized, the more thorough action and stronger constitutional and more lasting effects of the bovine and its convenience and certainty of supply.

Vaccina has shown, during the past year, a remarkable tendency to express its influence upon the cutaneous surfaces; thus we have received reports of variously described appearances, as a frequent fine rash, giving a red hue to the surface and which was accompanied with thickening of the skin and marked itching and burning sensations, and a papillary eruption which passed through the vesicular and pustular stages and became sufficiently unbilicated to very closely resemble discrete variola. This condition was so marked on the person of Dr. Veatch, that a practitioner of long experience, pronounced the affection to be varioloid. An eruption resembling measles, or the surface covered with raw and inflamed vesicles; a so-called raspberry vesicle at the site of the vaccination, tardy in

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its development and slow in its subsidence; subsequent re-vaccination with humanized virus, in these cases, ran a normal course. An eczematous eruption was of common occurence, often accompanying other unusual conditions for which Dr. Thos. M. McIlvaine, of Peoria, proposes the name "vaccinal urticaria" (Peoria Med. Monthly, p. 399, vol. II.) which presents a striking feature in very many instances. Dr. Curtiss noted its presence in as high as 33 % and Dr. Whitley in 20 % of their cases. Erythema was reported in a few instances, and an erysipelatous condition in a much larger number. Dr. Wilmot states that during the latter part of the season of frequent vaccination, so certain was erysipelas to follow the operation, that he suspended its performance and advised people to wait until the epidemic influence of this desease had passed away. Dr. Griffith mentions the appearance of erysipelas in February, but not attended with fatal results, nor does he state that it prevailed as a complication of vaccina. Dr. Veatch reports the very unusual connection of vaccina and diphtheria in many instances. As the vesicle upon the arm began to develop, the glands of the throat would enlarge and diphtheritic exudation make its appearance, parents often neglecting the patients until signs of collapse set in, thinking them cases of severe vaccina only.

Dr. J. J. Taylor, of Streator, on the other hand, announces the improvement of eczematous eruptions, in several instances, and a complete cure in one case, as a result of vaccination.

The sudden elevation of temperature, accompanied by a high fever and the swelling of the arm, oftentimes to nearly twice its natural size, which have attended primary vaccination with bovine virus, or the humanized, if of but one to three removes from the bovine, have indicated a more than usual constitutional influence. There has frequently followed a large open sloughing ulcer, which in some instances has not entirely healed at the end of many weeks. Need the medical profes-

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sion be surprised, if, to the mind of the general public, the operation of vaccination should present grave objections, especially after the unusual experience of the past season.

To enlarge an unjust public estimate of this valuable means of protecting and preserving human life, we fear that highly sensational newspaper articles have contributed no slight share.

It would appear that not a few were, at one time, almost ready to believe that amputation or death was of common occurence following vaccination, especially with bovine virus.

As conservators of the public welfare, physicians can have no other desire than to discover the truth, rather than to conceal unfortunate results, if such have occurred, in order that they may be the better enabled to avoid like dangers in the future. That an occasional death should follow so vast a number of vaccinations could not reasonably be expected to be otherwise, when we consider that in all times past, equally slight abrasions of the skin from other causes, in isolated cases, are known to have resulted fatally.

The local reports before your committee universally declare that no amputation has been made, during the past year, for causes resulting directly, or indirectly, from vaccination.

We are fully convinced that if the cases of the few reported deaths from this operation were to be carefully investigated. with the view of eliminating such as have entirely depended upon vaccination, as the sole or responsible cause of fatality, the sum total so set apart, would even prove a surprise for its comparatively limited number. Five cases only are noted in our local reports, as occurring during the year just past.

Concerning the *first* case: the Health Commissioner of the city, where such return of death was made, writes us, that although the cause of death was reported to be blood poisoning following vaccination, yet, the attending physician had informed him that it could not really be said that the vaccination had anything to do with it.

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The *second* case was that of a boy of sixteen years of age, vaccinated with humanized virus. Fifteen days later the arm became terribly swollen and inflamed. The boy remained up until the third day before death, on which date he complained of illness and of pain in his limbs, and grew rapidly worse. The following day the pain apparently extended from the arm to the neck and tetanus supervened, resulting in death at the end of six hours. This case occurred in a German family, into which no physician was at any time called to attend the lad.

The *third* was one of septicæmia which occurred in a girl of twelve years, vaccinated with humanized virus, with which a number of other children were also vaccinated at the same time, and in none of whom did any bad results subsequently become developed. Three weeks after the insertion of the virus she complained of pain in the left hip, groin and thigh, which extending downward was followed by swelling and the formation of a large abscess near the knee. This eventually discharged a large quantity of unhealthy pus. Purpuric or hemorrhagic spots appeared on various parts of the body. The sore on the arm took on a very unhealthy appearance and the girl finally died, six weeks after vaccination. In this case the arm was allowed to get filthy, and the patient had otherwise failed to receive proper care and attention.

The *fourth* was that of a married lady vaccinated with bovine virus two months previous to death. The operation was rapidly followed by pain and inflammation, a large axillary abscess formed and discharged pus. Two weeks prior to death the lady was delivered of a liviug child at full term. At the date of death the arm from shoulder to elbow is described as being in a state of mortification. The foregoing are all the statements we have received in relation to this case. Had more time been at our disposal we would have made an effort to obtain further information.

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The *fifth* was also that of a married lady of twenty-two years of age, vaccinated on the arm by two insertions made with a lancet and the virus was introduced from a cone. About seventy-five other persons were, at the same time, vaccinated from the same virus, about ten % of whom had bad arms but no other deaths followed. Symptoms of septicæmia occurred about twenty-eight days after vaccination and death was the final result, but how long afterward we are not informed. This case had good subsequent care, but at the date of vaccination the patient was suffering from malarial fever and was six months pregnant.

In connection with these we would also mention the fact that in a case which Dr. Wright, of this committte, reported a year ago, as having died of tetanus caused by vaccination, he has since learned that the tetanic condition resulted rather from irritant applications made by an irregular practitioner, and adds the further fact that the boy, when in a state of ill-health, was vaccinated by his own father.

Comments upon these imperfectly reported cases are unnecessary. If it were possible without further inquiry to accept the fourth and fifth as possessing all the proofs required to show vaccination to be the direct cause of death, we might look with disfavor upon the employment of bovine, or other virus as likely to act with equal energy or similarly constitutional effect upon women in the pregnant state. Dr. Casal, while preferring the bovine virus for general use, remarks that he employs the humanized both in cases where pregnancy exists and in persons of feeble constitution.

It being an admitted fact that variola is exceedingly fatal to women in the condition of pregnancy, it becomes all the more important that the prospective mother should be amply protected during the prevalence of this disease. In such instances, when vaccination is demanded, we should most certainly recommend the employment of the humanized virus, pre-

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ferably of several removes from the heifer, as more certain to take effect, more prompt in its action, sufficiently protective and decidedly milder than the bovine in its influence upon the general system.

In treating the phagedenic sore that sometimes appears at the point of vaccination and is often reported as persisting for weeks afterwards, Dr. Gilliland dusts the surface two or three times daily with calomel and follows with applications of a solution of tannic acid in water. We might add here that thorough cleansing of the ulcer and free application of subnitrate of bismuth resulted well in our hands. This last treatment may sometimes be required to be repeated each day or at longer intervals, but not unfrequently a single application has served to form a healthy scab over the surface underneath which the reparative process has gone on to completion.

There are at least two prominent factors that may have entered into the causes which induced the late unusually severe effects of vaccina, viz: an especial epidemical influence and the character of the virus employed. It is a fact that epidemic erysipelas was rarely met with during the past year, if we may judge from the local reports made to us; hence, this affection, so frequently a complication in open wounds or ulceration, may with a few exceptions heretofore noted be excluded.

That a peculiar epidemic influence must have been present at once seems manifest, when we recall to mind the rapid increase made by small pox, a disease of the same class and evidently stimulated by a similar tendency. A further proof of this may be found in the fact that in many instances it was noticed that an increasing disposition to severe results was exhibited as the operation of vaccination was carried on from January to March. It was the experience of many that the January and earlier vaccinations did not show as many severe cases as did those made later in the season. Another indica-

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tion of an epidemical influence is shown in the fact that the humanized virus of but a few removes from the bovine, in many instances, acted with almost equal energy and like unfortunate results.

As to the character of the virus, there can be no doubt that the wholesale demand for the bovine led to much commercial enterprise and competition in supplying the trade, and many physicians entertain serious doubts as to the good quality and purity of some of that which fell into their hands. We have but little space to quote much of the testimony given us, but will say that that form of virus presented in the cone finds some objections. One deputy health commissioner in his annual report says, "we tried the famous cones, so highly vaunted by some physicians, and found we got more blood poisoning than vaccination, from the amount of pus in the cone." Dr. Johnson entirely rejects the cone or cheap virus, stating that "ulcerated arms and many cases of acute diseases followed its use," and surely he must have made use of some good virus, for he reports vaccinating 307 school children with only three instances of bad results.

But it may well be asked, if the cone be objectionable, how are physicians to know that they may not be served with the same virus upon the ivory point, since individuals sometimes obtain both the cones and ivory points and having themselves prepared the points supply neighboring physicians with this same virus.

Another circumstance that may possibly be found to exert some influence upon results, lies within the control of the physician himself. We allude to the want of care sometimes shown in the performance of the vaccination. As an illustration: a physician contracts to vaccinate entire schools. He secures a cone, and having brought a portion of it to a proper consistence, he proceeds to vaccinate a large number of children by means of a lancet, which uncleansed or undisinfected he again

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and again thrusts into the same receptacle of prepared virus and as often applies to the arm of each child in turn. Surely this method, or that other of applying one point to two or more persons, especially of different families, cannot give bovine any advantage over humanized virus as regards affording greater protection against the danger of the inoculation of obnoxious diseases from one human system into another is concerned, and upon this property bovine virus largely depends for its popular favor.

The uncertainty that still seems to hang over the purity or quality of our bovine vaccine virus cannot leave us always confident of its reliability, especially during an extensive demand for the material. This fact has led some physicians to express a desire for a more certainly reliable source of supply. Some of the profession favor the idea of having the State Board of Health furnished with the necessary means and authority for providing the physicians of our state with a pure and reliable virus at a nominal price.

That individual constitutional or local conditions have contributed to the ill effects of vaccination, in many instances, cannot be doubted. Dr. Irvin notices the scrofulous diathesis or unnecessary exposure, while Dr. G. W. Jones mentions constitutional deterioration or local conditions having no relationship to the character of the virus. Such is the testimony from many others among our most experienced physicians; some appearing almost unwilling to believe that so serious results, as have been sometimes reported, could possibly have occurred except in the presence of some one or more of these or similar conditions.

When we add to these an epidemical tendency to variolous disease, we may readily be made to believe that, in many of the severest cases following vaccination, the patient certainly would have perished had variola been substituted for vaccina in his system, during the late fatal epidemic of the former

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disease, wherein we fear that thirty % will not be an over-estimate of the death rate that has frequently occurred.

Surely vaccination is a blessing, and Jenner was a benefactor to mankind, and we close this subject with but the regret that, for reasons obvious to you all, it is impossible to correctly estimate the hundreds of lives his great discovery has saved in our own state alone during the year for which we here make report, and which, if possible to be made, would furnish of itself abundant proof of the value of this operation.

In conclusion, the writer desires to express a deep sense of obligation, to the following members of the medical profession of our state who have kindly afforded their assistance in the preparation of this report, by promptly responding to our circular of inquiry and other communications. Many of these replies we would have gladly incorporated bodily herein, could our limits have permitted, as documents far more interesting and valuable in themselves, than any summary your committee could possibly present before this society.

NAME.	POST OFFICE.	COUNTY.
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J. W. Dora	Mattoon	Coles.
D. T. Douglas	Selma	McLean.
C. W. Earle	Chicago	Cook.
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D. B. Goldsmith	Ramsey	Fayette.

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J. W. Hensley	Yates City	Fulton.
E. Holderness	Chenoa	McLean.
J. A. Hubbard	Wauconda	Lake.
S. H. Hubbard	Hudson	McLean.
M. Hurst	Sweetwater	Menard.
Geo. Irvin	Aledo	Mercer.
W. H. Johnson	Johnsonville	Wayne.
Johnson & Wright	Olney	Richland.
G. W. Jones	Danville	Vermilion.
L. L. Leeds	Lincoln	Logan.
G. B. Lester	Oswego	Kendall.
H. H. Long	Orion	Henry.
J. P. Mathews	Carlinville	Macoupin.
T. J. Maxwell	Biggsville	Henderson.
M. A. McClelland	Knoxville	Knox.
S. T. McDermith	Cowden	Shelby.
J. S. McKinney	Barry	Pike.
McNary & Doak	Martinsville	Clark.
R. J. Mitchell	Girard	Macoupin.
C. Park	Oquawka	Henderson.
J. Perry	Crete	Will.
G. W. Ramsey	Magnolia	Putnam.
H. Shimer	Mount Carroll	Carroll.
J. Stout	Peoria	Peoria.
J. J. Taylor	Streator	LaSalle.
B. C. Toler	Astoria	Fulton.
W. H. Veatch	Carthage	Hancock.
B. P. Watts	Camden	Schuyler.
I. R. Wells	Geneseo	Henry.
A. L. Whitcomb	Camargo	Douglas.
J. D. Whitley	Petersburg	Menard.
T. J. Whitten	Nokomis	Montgomery.
O. B. Will	Peoria	Peoria.
W. H. Wilmot	Lawn Ridge	Marshall.
T. F. Worrel	Bloomington	McLean.
John Wright	Clinton	De Witt.

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DISCUSSION.

Dr. J. H. Rauch, of the State Board of Health, discussed the effect of the sewage from Chicago, and said that he did not believe that the evil effects upon the Illinois river water were as great as some were disposed to attribute to it.

Dr. H. A. Johnson, of Chicago, gave the results of his observations as a member of the National Board of Health, in investigating the subject of the sources whence the supply of bovine virus was received, the dangers of dilution and contamination, as follows:

There are one or two points which I think should be brought before this Society. In the first place, during the last winter I have had occasion to investigate the method of propagating bovine virus. The results of this personal investigation have led me to feel quite sure that there is an opportunity for the contamination of this virus, and that there is no guarantee that it is genuine and not contaminated, except the personal character and well known skill of the collector. This condition of things introduces an element of uncertainty in the results of vaccination by bovine virus. It is well known that in using humanized virus, we have marks by which we can judge, with a good degree of certainty, whether or not it is genuine; but we have nothing of the kind by which to judge of the character of bovine virus. I have investigated four places where bovine virus was produced, and am satisfied that in two the business was managed by persons entirely ignorant of the true form of vaccine pustules and the conditions under which the lymph should be gathered. The object seemed to be to make as many points as possible from the fluids exuded, without any capability of determining whether it was a genuine vaccine pustule or an ordinary suppuration. In many instances the animals were covered with filth, and the places where they were kept were also filthy. The mode of propagating the virus is well known to the gentlemen of this Society. The hair is removed from some portion of the animal. Patches an inch and a quarter in diameter are scarified until the blood is visible, and then the surface rubbed with vaccine virus taken from a previous vacinnation. The point where this production of vaccine virus is largely made is upon the withers, and usually where the skin is thin and soft, in other words, back between the legs and above the udder, extending up to the vulva. The urine and féces were constantly being passed over the point of vaccination; the animals were running at large and rubbing against the posts and fences, and the whole parts were covered with dried excrement and softened every few hours with the urine. From such conditions many thousands of points have been distributed to the Northwest. Without denying the fact that in these cases there were genuine vaccine pustules, the further fact is apparent that there is a great probability that in collecting the lymph there is great liability of contamination with excretory materials—matters which we should hardly like, voluntarily, to introduce into the system. In one instance I found the most scrupulous care ex-

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ercised in protecting the parts and in gathering the lymph. Our confidence in the quality of the virus must depend upon the knowledge and character of the collector. The motives of the collector should be something more than getting so many cents per point. We should try to learn the history of the bovine virus which we use, and not buy simply whatever comes into the market. At present, the collector selects those parts and those methods which will secure the greatest amount of lymph with the greatest ease of collecting. Some scarify parts of the abdomen, but this is objectionable, because in lying down the pustules are broken. It has been suggested that the most desirable place is upon the back; but the skin is thick, and the amount of lymph is diminished. We should be sure that the propagator of vaccine lymph can tell the difference between lymph and pus, and between a vaccine sore and a suppurative surface. We ought to know something of the character and standing of the persons who collect it.

One word as to the mode of the introduction of variola. During the last year it has been evident to all observers of the progress and spread of this disease, that it is brought chiefly along the lines of communication with the seaboard, the tide of immigration. It has been denied, however, by some persons that the immigrants were the agents of distribution. Recently an effort has been made to put into operation a system of inspections and vaccinations of immigrants, and a letter from Dr. Smith, a member of the National Board of Health, who has matured and developed a plan of vaccination, states that inspections have been commenced in Philadelphia and New York, which show that four-fifths of the immigrants are unprotected. Several thousand have already passed inspection, and seventy-five per cent. are found to be unprotected. The disease is incubating when they land. If the disease occurs on shipboard, it is as far as possible concealed, and it does not develop often until they reach their destination. It is hoped that some method will be devised by which every immigrant will be subjected to vaccination at the point of debarkation. It is desirable also that we keep track of them and have an inspection somewhere here in the Northwest, so that we may know that they do not bring among us disease, and are not the means of its distribution.

Dr. E. Ingals, of Chicago, expressed a preference for humanized virus, but at times uses bovine virus from necessity, partly because of the care required and the difficulty encountered in an effort to secure a sufficient supply when needed, and, partly, because of the popular prejudice against humanized virus.

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REPORT OF THE COMMITTEE ON SURGERY.

E. W. LEE, M. D., CHAIRMAN, CHICAGO.

MR. PRESIDENT AND MEMBERS OF THE ILLINOIS STATE MEDICAL SOCIETY:

The past year has been an unusually progressive one in the science of our profession, in a great measure owing to the meeting of the International Medical Congress, held in London in August, 1881. In point of numbers, status of delegates, amount and value of work accomplished, this was the most important gathering of the kind that has ever assembled, and in no department has the influence been felt in a greater degree than the surgical. In reviewing the events of the year, the subject of antiseptic surgery naturally comes uppermost in our minds. At the time of our last meeting it might truthfully be said that the hissing of the spray might be heard in every surgical ward and operating theatre in the land. What a change has one short year brought forth with regard to that agent. About eighteen months since the edict of Brun's had gone forth (*fort mid dem spray*). This, supported by a formidable array of statistics, showed as good results without the spray as with it. Irrigation with carbolized water being employed instead, the remainder of the antiseptic armamentarium being employed to carry out the treatment. To Lister being given the full credit for the application and success of antiseptic methods. Then came the meeting of the congress; and in the surgical section the subject of the best means for promoting primary union of operative wounds came up for

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discussion. And this matter, in which we are all so much interested, received its full share of attention. Savory, of London, opened the debate. At the meeting of the British Medical Association, held at the city of Cork two years previously, he read a paper, in which it might be said he attempted to stem the tide of Listerism. He could see no reason for changing the opinions then expressed. He opposes the employment of all so-called antiseptic applications, contending that the wound should be left to nature to repair in her own way, favored by proper hygienic surroundings and rest. While acknowledging the wonderful progress made of late years in the successful issue of surgical operations, and generously according to Lister his share of the credit, he attributes the change wholly to improved sanitary conditions, and says no doubt the antiseptic theory and application had its value as a placebo. Humphrey, of Cambridge, believes that the method has been a powerful agent in procuring these successful results. In short, we may place him as an antiseptic man. The surgeons of the German school accorded a very hearty endorsement to the Listerian idea. Volkmann, of Halle, said: "We know of no suppuration which does not depend on the influence of organic ferments, and we recognize no other cause for suppuration." With the aid of the antiseptic method he succeeds in obtaining primary union in all conditions, its use nullifying the embarrassments depending on constitutional conditions. Curious to note the difference in the treatment of wounds by two such eminent surgeons as Savory and Volkmann—Savory says: "Use no irritant application to the freshly-cut surface to coagulate albumen, change the natural surface of wounds, hamper and retard the process of repair;" while Volkmann advocates complete disinfection, which, of course, involves the use of the very agents which the other condemns. Esmarch was of the opinion that the safest and surest way of obtaining union by first intention

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was by the adoption of his modification of Lister's method, known as antiseptic permanent dressing, and produced an array of statistics showing remarkably successful results. This antiseptic dressing now consists of a cushion soaked in a solution of iodoform in absolute alcohol (1 part to 10), secured by an iodoform gauze bandage. Over this a large pillow of coarse jute and gauze is placed, and over that again a moistened gauze bandage is applied. Lastly, the whole is enveloped by an elastic compress. Drainage is provided for by cartilaginous absorbable tubes. The advantages claimed for this dressing are, absolute rest of wound till healed, facilitation of primary union, avoidance of septic infection by frequent renewal of dressings, diminished sufferings of the patient, labor of the surgeon and expense.

Gant, of London, while endorsing the views of Savory as to the pre-eminent importance of favorable hygienic surrounding, said: "If surgeons are compelled to perform operations in a foul hospital, there can be no doubt whatever that the high ritual of Listerian antisepticism has yielded some splendid results." Letievaint, of Lyons, France, stated that, before the advent of Listerism, the mortality in his hospital had reached as high as 7.69 per cent. This had been reduced in 1879—the last year for which statistics had been made out—to 4.83 per cent., and congratulated Lister on the results obtained. At the same time he denied that the theory that wounds are infected by the air and its micro-organisms had been satisfactorily demonstrated, citing as an argument against this theory the remarkable freedom from infectious diseases enjoyed by the maternity department of his hospital, though situated in an atmosphere presumably swarming with ærial germs of disease. This freedom he attributed to the fact that the maternity department was closed to outsiders. He charges the purulent infection to external contamination, and insists on the prime importance of disinfection of the hands, instru-

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ments, etc., as a means of avoiding putrefactive fermentation, and maintains that the excellent result obtained from the Lister method depends more on the strict observance of these rules than upon the means used for counteracting the contaminating influences supposed to exist in the atmosphere. In the section on abdominal surgery, Keith, during the debate, astonished his hearers by announcing his abandonment of the spray in his ovarian operations, stating that, in his opinion, it had done harm, being satisfied some of his patients had been poisoned by the carbolic mist. Lawson Tait also renounced its use, stating it had done more harm than good. Lister failed to fulfill the expectation of his admirers by coming to the rescue of the spray. He said he never advocated its use in abdominal operations, that it probably irritated the sensitive peritoneum, weakening its vital power and causing increased effusion, whereas, under ordinary circumstances, that membrane had sufficient absorbtive capacity as to be able to take care of its secretions. He related some experiments which he had made, the result of which convinced him that the serum of the blood was not as prolific a soil for the development of bacteria as he had supposed, and admitted that it was questionable whether the air of the hospital or private room contained bacteria in numbers and activity sufficient to call for the use of an agent for their destruction, and said that perhaps at the next meeting of the congress, at the present rate of progression, he might be able to announce that the spray was no longer necessary. He, however, made a powerful argument in favor of antiseptic methods, and made a good point against his opponents by quoting the statistics of Esmarch. Such brilliant results from a dressing. "What can be more dirty, in the ordinary acceptation of the term, than a wound left covered up with the same dressing for weeks together, the original blood and serum remaining upon it intact, yet surgically clean because asceptic? On the other hand, the

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esthetically cleanly water dressing is surgically dirty, because it contains elements which give rise to septic changes in wounds." The spray has had its day, but, like every other novelty that becomes fashionable, too much was expected of it; and it may also be said that too much credit was given to it. It will be recollected that Lister claimed that a pus cavity, being evacuated under the spray, no more of that material was secreted, provided full antiseptic precautions were successfully carried out. This, and their rigid rules laid down for making these dressings, showed his full faith in the aërial germ theory. If the spray gave out (which often happened), or through mischance or carelessness non-disinfected hands or instruments came in contact with the wound, so as to make the dressing antiseptically incomplete, such mishap was supposed to invalidate the protective properties of that dressing. In securing the bandage we were cautioned not to make a pin-hole in the macintosh, as through an opening, even so small, the micrococcian army would march in. I had the curiosity, when I first witnessed these antiseptic dressings made, to watch the operator and attendants, and I can truthfully say that a really complete antiseptic dressing was a rarity, especially if the operation was prolonged. It will readily be seen that, with these disadvantages, together with the cumbersome paraphernalia attending the use of the atomizer, that it must go out of general use, unless the aërial germ theory be proved beyond a doubt, and as its author has virtually abandoned it that is not amongst the probabilities. Yet some of his enthusiastic disciples carried the use of the system to extreme length. Children were born and the post-parturient treatment was conducted under its supposed benign influence, and the successful results proclaimed to the world as attributable to it. Yet, how many of us have conducted an obstetric practice under the most unfavorable hygienic conditions, and yet years pass over without the loss of a single life. The spray will take

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its proper place in the surgeon's armamentarium. I do not think, to-day, that I would be justified in opening a joint or the thoracic cavity without its protection. From what experience I have had in making antiseptic dressings with and without its aid, I find that, with *full* antiseptic precautions, suppuration is longer deferred, decreased in quantity, and dressings less frequently required; and with every modification, according to degree, these desirable conditions are less attainable.

It might be supposed that enough had been said of the spray, but in connection with this subject I would draw your attention to the fact that the use of this agent is liable to act as a boomerang, its evil influence reaching the operator as well as the patient. Czerney, in discussing the relative value of carbolic acid and iodoform as antiseptic agents, quotes the following statement of Falkson: "In the twenty-four hours succeeding a two and a half-hour operation, in which a two per cent. solution of carbolic acid was used, he excreted by the urine 2.0655 grammes of carbolic acid." As the dose is but two or three minums, about fourteen times less than the amount thus thrown off by the kidneys alone when the drug is excreted by skin and lungs also, Czerney says: "The history of the surgeon's suffering from carbolic acid poisoning is yet to be written." The symptoms he gives of this "carbolic marasmus" are: headache, bronchial irritation, languor, loss of appetite when the poisoning is intense, heavy dragging pains in the kidney region, legs feel heavy, circulation sluggish in abdomen, nausea, pruritis, insomnia, face assumes anæmic appearance. During the past summer, in hospital and private practice, I was daily in the habit of employing the spray in making operations and dressings. All these symptoms were developed. I became very much prostrated after every operation; the longer its duration the more intense these manifestations, so that I was reluctantly obliged to abandon its use in self-defense. About a year since, our troubles in this direc-

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tion seemed at an end, an agent possessing all—nay, more than all—the antiseptic properties of carbolic acid or thymol, and the application of which was so simple that the merest tyro could use it, had been introduced into the notice of the profession by the surgeons of the German school. Iodoform many of us have used for years as a dressing for specific irritable and foul ulcers. Its disagreeable odor was somewhat of a hindrance to its general application. With the decadence of the complete Lister dressing, this substance came into use as an antiseptic, and so well did it answer the purpose, that for a time it bid fair to revolutionize the treatment of wounds. Billroth, in his clinics, first brought it into general use. In operations about tuberculous joints, its effects on the fungus growth was marvelously beneficial. Contrasting iodoform and carbolic acid in their local effects, iodoform acts as an anæsthetic, the acid as an irritant; the former evolves very slowly and the latter quickly. In operations about the mouth, throat and rectum, where carbolic acid would be dangerous on account of this quality, iodoform is an excellent substance. It was a very simple matter in dressing a cavity to store up a supply of iodoform that would maintain an antiseptic condition far longer than a full Listerian dressing made with all the paraphernalia. The drug was used by the ounce, large cavities being filled with it.

After a time reports began to be published of its poisonous qualities, and so many well authenticated cases of iodoform poisoning are now on hand that a halt must be called in its indiscriminate use. When we consider that a large proportion (96 % I believe) of this drug is iodine, and to which it is supposed to own its antiseptic qualities, we need not be surprised at these untoward results. Yet it is surprising with what impunity it has been employed. Many surgeons have been using it in all cases without any restrictions as to quantity, no unfavorable effects being observed.

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Within the past year, what promises to be a very valuable addition to the means hitherto employed in facilitating the healing of wounds has been introduced in the shape of sponge-grafting. Skin-grafting has been, as we all know, for many years in successful operation. Dr. D. G. Hamilton, in the Edinburg Medical Journal, November, 1881, publishes a paper on this subject of sponge-grafting. In a previous paper he had endeavored to show that the vessels of a granulating surface are not newly formed, but are simply the superficial capillaries of the part which had become displaced; they have been thrown upwards as a granulation loop by the propelling action of the heart, the restraining influence of the skin being removed. He remarked the similarity of the process of vascularization in granulating surfaces, and that which occurs when a blood-clot or fibrinous exudation is replaced by vascular cicatricial tissue. Regarding these as so much dead matter, before organization took place, he thought it practicable that some porous dead animal tissue, which could ultimately be absorbed, might be employed instead. Sponge was selected as the material for experiment. It is prepared by dissolving the seliceous and calcareous salts by means of nitro-hydrochloric acid, subsequently washing in liquor potassa, and steeping for months in a 5 % solution of carbolic acid. I find, however, that it can be prepared just as well by a prolonged boiling in the carbolic solution, with the advantage of having it available in a much shorter time. A granulating surface is selected for application and, contrary to the experience in skin-grafting, where the smaller the graft the more likely it is to succeed, the whole granulating surface may be covered with sponge; over it is placed protective and the regular antiseptic dressing. After a few days the sponge becomes attached to granulating tissue. On pricking its surface it bleeds readily. The healing process, as in skin-grafting, appears to be stimulated at the edges, and also progresses from below upwards.

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The meshes of the sponge become filled with organizing tissue, and ultimately disappears from view entirely; vascularity being obtained, the epithelium now spreads over it. Microscopic examination revealed the fact, that when these vascular loops came in contact with the frame-work of the sponge, instead of an opening a curvature formed on the loop at the opposing point, and on each side of the obstacle there was pushed in a secondary loop to that from which both had arisen. I have employed this procedure in four cases, in all successfully. They have been for injuries to the fingers, where sufficient integument was not available to cover the stump without the sacrifice of a greater length of the member than could well be spared. As the granulations spring up, I clip off the redundant sponge tissue; and when the healing process is completed, where the sponge has been substituted for the lost soft parts, the contour is more symmetrical than if grafting had not been done.

Whether this condition will be permanent or not time alone can tell. Bone-grafting has also been successfully employed. Dr. McEwen, of Glasgow, Scotland, relates the case of a boy of three years, where the whole shaft of the humerus had been lost from necrosis, nothing remained but the epiphysis. A section was taken from an incurved tibia, cut up into pieces, and placed in conjunction with the upper extremity of the humerus. An attachment subsequently took place; at the second trial larger pieces were used in conjunction with the small. They, however, escaped through the wound, about one-third of the smaller pieces adhering. On the third attempt, still smaller pieces of bone were used than before, and the result was more successful, the lower end of the humerus being the point selected for operation. Subsequently, the prolonged ends were successfully united. The bone was now but half an inch shorter than its fellow on the opposite side. A useful arm with all the movements, resulted. McEwen says that each trans-

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planted fragment should contain all the elements of bone, and the antiseptic method of dressing should be employed.

Jonathan Hutchinson, of London, has called attention to the necessity of recognizing a pre-cancerous stage. The recurrence of cancer after operations, he maintains, is in consequence of these measures being resorted to too late. He says it is a lamentable pity that it should be so, and the bitterest reflection of all is, that usually a considerable part of the precious time which has been wasted has been passed under professional observation and delusory treatment.

According to this pre-cancerous doctrine, in most cases of cancer of the lip, tongue, penis, skin, etc., there is a stage (often a long one), during which a condition of chronic inflammation only exists, and upon this the cancerous process becomes engrafted. Phimosis and balanitis become cancer of the penis; the pipe sore becomes cancer of the lip, and the syphilitic leucoma of the tongue, which has been quiescent for years in advanced life, degenerates into a cancerous growth.

He draws attention to the remarkable frequency of these syphilitic lesions assuming a malignant character, and advocates as a remedy the extirpation of all suspicious sores and adventitious growths. And if the microscope does not reveal the characteristic cells, not only has the procedure been harmless, but the patient has, in all probability, been permanently cured of what might have turned out to be an incurable disease. I can fully endorse these views, and have, for some years back, endeavored to carry them into effect, but as we all know the popular horror of the surgeon's knife, and the quack with his delusory cancer plaster, too often unfortunately delay the operation till systemic infection has taken place, and brings on the surgeon's work unmerited disrepute.

Dr. Fenger, of Chicago, has successfully extirpated the entire uterus for malignant infiltration. The patient remains at present date perfectly well, though several months have elapsed

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since the operation, which was made through the vagina. This, I believe, is the first successful case recorded in the United States. Spencer Wells, of London, has also successfully extirpated a gravid uterus.

DISCUSSION.

Discussed by Drs. W. A. Byrd, of Quincy; H. Hatch, of Griggsville; L. Bauer, of St. Louis, Mo.; E. P. Cook, of Mendota; K. E. Rich, of Winona; — Aldrich, of Galesburg, and H. H. Littlefield, of Beardstown.

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OBSTRUCTIONS IN THE LARYNX AND TRACHEA.

By E. Fletcher Ingals, A. M., M. D.,*

In October last a boy eleven years of age was brought to me from Waukegan, suffering from severe dyspnœa caused by a foreign body in the air passages.

I learned that a month previously while cracking a hickory nut with his teeth the boy was made to laugh, when a piece of shell was drawn into the larynx. Severe cough and dyspnœa resulted, but after a few days the latter nearly subsided though the cough remained. Thus he continued for three weeks. Then the dyspnœa again became troublesome and it steadily increased up to the time when he was brought to my clinic, at the Central Free Dispensary, one month after the accident.

I found the patient very hoarse and greatly troubled for breath. A laryngoscopic examination was made, but the boy's timidity prevented me from obtaining a satisfactory view of the lower part of the larynx, though I obtained a glimpse of the glottis which enabled me to determine that no body of any considerable size was lodged between or above the vocal cords.

As the changes which had taken place in the boy's symptoms during the last few days indicated that the foreign body was not likely to change its position within a few hours, I did not press the examination farther, but directed the patient's mother to bring him to my office the following morning; but

*Professor of Diseases of the Throat and Chest, Woman's Medical College, of Chicago, etc.

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to avoid accident I cautioned her to send for me at once should any serious dyspnœa occur during the night. This was at five o'clock in the afternoon. Four hours later I was summoned by telephone to see the patient immediately at his lodgings. I found him in a small room so damp and chilly as to endanger the life even of a perfectly healthy child. There was no place for a fire; the ceiling was wet from recent rains, and in some places the carpet was soaked with water. The child was laboring for breath; the soft parts falling in with each respiration, and suffocation was certain to ensue within a short time unless relief could be obtained. I at once set about finding a better room, which was soon secured in a neighboring hotel. Doctors R. S. Hall and B. W. Griffin came to my assistance, and as the patient's condition precluded the idea of further laryngoscopic examiation, no delay being permissible, we made immediate preparations to open the trachea. The body being fixed. there could be no objection to an anæsthetic; therefore, chloroform was used which is not, like ether, liable to explode in consequence of ignition from the lights. After dividing the skin with my scalpel I attempted to reach the trachea by means of the galvano cautery, hoping thus to avoid accidental hemorrhage, which might occur when operating in a poor light, but the poor light and my assistant's difficulty in controlling my battery, with which he was unfamiliar, rendered this part of the operation unsatisfactory. Meantime the patient stopped breathing. I then threw aside the galvano-cautery and speedily worked my way down to the trachea and opened it. Artificial respiration was then instituted and continued until natural respiration was established.

I then introduced my tracheal forceps and having found the trachea clear, turned them upward, where I found the shell firmly imbedded in the larynx, just below the vocal cords. It was so firmly held that several times the forceps slipped off before I succeeded in extracting it. The piece of shell was

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triangular in form, with sharp borders and angles. It measured three-fourths of an inch in its longest diameter by half an inch across its base. The shape would allow of its passing through the glottis lengthwise with its sides anteriorly and posteriorly, and while it remained in this position in the trachea it would not greatly obstruct the calibre of the tube; but soon as it became turned very little space would be allowed for the passage of air. If it had been short enough, so that it could have turned horizontally across the trachea, it would very likely have caused suffocation during some of the paroxysms of cough.

From the history I concluded that the shell had at first fallen into the trachea, where it had remained three weeks, and then it had been coughed up into the larynx, fortunately lodging edgewise. The night before I saw the child he nearly suffocated, either from change in the position of the shell or from spasm and swelling of the larynx, induced by the irritation which it set up.

After the operation I introduced a tracheal tube and allowed it to remain three days, until the inflammation of the larynx had subsided. Broncho-pneumonia supervened, the temperature rising four or five degrees, but by the end of the fifth day the untoward symptoms began to disappear, and the child subsequently made a speedy recovery. In eight days after the operation the wound was closed so that no more air escaped through it, and the patient left the city. I saw him about four weeks later. The wound was entirely healed and the voice perfect.

A few weeks after treating this case I was asked by my friend, Dr. W. L. Dorland, to see a child eighteen month sold, who had drawn a bit of bone into the larynx the previous evening. A neighboring physician had been summoned when the accident first occurred, but as there was but little dyspnœa and there seemed no immediate danger, Dr. Dorland, who was

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the family physician, had not been called until the next morning. He found the child suffering from a little dyspnœa, bu no hoarseness, and presenting signs of only slight obstruction in the air passages.

The doctor told the friends he wished to bring me to see the case, and we arranged to go together at four o'clock in the afternoon of the same day, which was the earliest convenient hour. Just as we were starting a telephonic message reached us that the child was in a convulsion. We drove rapidly to the house, but did not arrive until the child had, to all appearance, been dead for half an hour, indeed she had ceased to breathe before the messenger left the house to telephone to us. A post mortem examination was made the next day, and the bone was found firmly fixed in the sub-glottic portion of the larynx, where it had caused considerable laceration and ulceration of the mucous membrane, showing that it must have been in that position for several hours. Upon examining the heart, Dr. Dorland found a firm white fibrinous clot extending from the left ventricle through the aortic valves; also a few small dark clots in the right side of the heart.

Both of these cases illustrate the danger of delaying the operation for the removal of foreign bodies from the air passages.

The autopsy in the latter case, revealed one of the dangers from obstruction of the air passages which has not been appreciated by the profession, viz., the formation of a heart clot as a result of the obstructed respiration. This seems to me a matter of very great importance, particularly where the obstruction results from pseudo-membranous deposits.

Tracheotomy when performed for the relief of patients suffering from diphtheritic croup, is much more successful if done early. Different reasons have been assigned for this by those who favor and those who oppose the operation. The former claim that when the operation is delayed the blood becomes so

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charged with carbonic acid that it is often impossible for it to be eliminated even after a free passage has been made; and, that the depression caused by the obstruction favors the more rapid deposit of false membrane; so that only a small percentage can recover of those patients operated on after suffocation becomes iminent.

On the other hand, those who are not in favor of tracheotomy in this condition claim that the greater percentage of favorable results, in those who are operated upon early, is mainly due to the mildness of the attack, and they infer that most of the favorable cases would have recovered without the operation. Though there is much plausibility in the reasons assigned by both parties for the greater percentage of recoveries after early operations, I believe that in many cases an early operation saves life by preventing the formation of a fatal heart clot.

This little child died in twenty two hours after the accident, and though she had previously been perfectly healthy the autopsy revealed a firm ante-mortem clot. It must not be forgotten that this patient had experienced but comparatively little dyspnœa excepting during three or four short paroxysms which occurred at irregular intervals after the accident. If a firm clot can be formed under such circumstances, how much more likely is it to be formed in patients suffering from the depressing effects of diphtheria when the obstruction of the larynx throws an increased burden on the already weakened heart.

In a case of diphtheritic croup, upon which I recently performed tracheotomy for Dr. David Dodge, I examined the child's heart at half past ten in the forenoon and found it beating rythmically without abnormal sounds. I had seen the child an hour and a half previously and had thought the operation advisable, but at this time the breathing was easier so that we concluded to wait until afternoon, hoping that improve-

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ment might take place. We met at five o'clock in the afternoon of the same day, and found the child so much worse that it seemed impossible for it to survive more than twenty-four hours at most, unless the dyspnoea could be relieved. I then opened the trachea and inserted a tube. Shortly after the operation was completed, I placed my ear over the base of the child's heart and discovered loud murmurs which I feared came from a heart clot; but subsequently the sounds were so changed that I suspected they came from the pericardium. These sounds gradually became less distinct, and finally disappeared about the fourth day without other evidence of pericardites. Therefore, considering the character of the murmur as first heard, I still suspect that there was also a clot which finally softened and was absorbed.

The child made a complete recovery in about two weeks.

When foreign bodies are lodged in the air passages, the rule should be to operate as soon as possible if the body cannot be removed by the inversion method.

In diphtheritic croup we should operate early and not leave tracheotomy as the last resort.

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REPORT OF COMMITTEE ON OBSTETRICS.

J. B. DAVISON, CHAIRMAN, MOLINE.

MR. PRESIDENT AND MEMBERS OF THE ILLINOIS STATE MEDICAL SOCIETY:

As chairman of your committee I desire to express thanks for the honor conferred in appointing us to report upon a subject of so great importance as that of obstetrics.

We regret the fact that our report must be so barren of everything which might be anticipated, but nothing has come to our knowledge as having transpired within our membership during the year just past, which could be claimed as new, that in any way pertains to the subject of our report.

In our extremity we resorted to our medical journals, but though their number was never larger, and their value priceless to the practitioner, yet, no brilliant articles were found upon the subject of obstetrics.

As a last resort we turned to our obstetrical journals, confidently expecting aid from them, but, again we met with disappointment, because they proved to be chiefly devoted to the publication and discussion of articles descriptive of what might be termed curiosities, that is, of articles concerning pathological conditions and operations which but few practitioners see in a life time.

The multiplication of machinery and the mad rush which characterize our time and our people multiply danger to life and limb. Hence, the demand for good practical surgeons has increased proportionately, and we find accordingly that a vast

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majority of the members of our profession have gone in pursuit of distinction in the practice of surgery.

Gynecologists tell us that owing to the ignorance of the obstetrician, the demand for gynecologists has been greatly multiplied, and were we to take the quantity of literature which has been published and circulated throughout civilized countries upon this subject, as a criterion, it would appear that not an inconsiderable number of the members of our profession have decided to devote their energies to the application of the principles of surgery, to certain diseases and accidents which are peculiar to women, especially to the child-bearing class, and furthermore, we might infer that operations for lacerated cervix are of the utmost importance.

But it seems very improbable, that even one in every ten parturient women suffers laceration of the cervix during labor, hence the duties of the obstetrician are to those of the gynecologist (of the surgical type) in number as ten to one, and not only are the duties of the former more numerous but they are of more importance.

Obstetricians should realize the magnitude of the responsibility they assume in taking charge of a patient to conduct her through a physiological act, who, though in good health, is nevertheless exposed to dangerous or even fatal accidents. They should also defend the dignity of their profession and prove themselves progressive, diligent, conscientious, and upright in the performance of their duties, ever remembering with charity, that gynecologists in ten cases operate in which the operation beyond doubt is demanded in one.

Certainly there is no profession more honorable than that of obstetrics and no class more worthy of great, good consideration, kindly sympathy, and tender care, than woman during the crowning effort of the fulfillment of her natural function of bringing forth and perpetuating the human species.

It is true that parturition like impregnation, is still effected

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in the same old way, and judging from the popular prejudice and taste, it is probable that it ever shall be. Yet we believe that obstetrics is second to no branch of our profession, unless it be that of surgery.

It appears that there are physicians whose evidences of ability and erudition are by no means startling, who are afflicted with a chronic habit of croaking about a higher standard of education, but who contiuually fail to realize or even to notice the fact that the present standard in all first class colleges is not less than 40 per cent. higher than that under which they themselves graduated.

The fact is, that no degree of education can make an obstetrician. He is born, not made. He must be educated as a matter of course, but education will not, cannot, as a matter of course, make a first class obstetrician.

The death rate of females in parturition in England and Wales in 1660, was one in 44, and in 1842 one in 169 cases terminated fatally.

Considering parturition to be a natural physiological function of woman, even the latter rate appears very much in excess of what it should be. We believe our present rate of mortality, so far as it relates to childbirth, is much less than that above, and that *it* would be still less, were it not modified by reckless interference on the part of a certain class of practitioners, and through want of proper care at the hands of persons in every sense disqualified to practice, who constitute a horde of pretenders, who know as little of anatomy and physiology as does "The heathen Chinee."

In the practice of obstetrics, anæsthetics, ether and chloroform are not generally demanded, and but rarely used. They are not used chiefly, perhaps, because of the dread of fatal results, and also the fear of post-partem hemorrhage, to which it has been claimed it exposes the patient; a reason which is doubtless valid.

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A substitute for the chloroform inhalations has been lately introduced, by which it is claimed anæsthesia may successfully and safely be produced by *rapid breathing*. But many of us have seen patients in labor who breathed very rapidly, and for so long a time that grave fears and great anxiety were felt for the safety of the patient and yet relief came, only after the termination of labor; consequently we would receive statements in reference to this mode made by those who have introduced it, or who may seek to introduce it with much allowance.

So grave an affection as puerperal eclampsia, which is peculiar to women during pregnancy, at the time of, or after labor and attended by great mortality among its victims, though a subject which has excited much interest and discussion for ages, is nevertheless not well undersrood to-day. Investigations have been conducted chiefly for the purpose of discovering the cause, and though the cause may have been discovered, yet we have not been enlightened as to treatment. It is not a difficult matter to detect albumen in the urine when it exists, but it is frequently of little *practical* importance to the practitioner to know whether it is or is not in the urine. What he needs to know is, how to prevent an attack which is manifestly at hand or to rescue and save a patient whom he finds already suffering from convulsions.

Too frequently the patient is seen by the attendant for the first time, either during the progress of labor or in the midst of an attack of convulsions. The one thing needful then is, to know what to do. If he does not know at his first visit, he may not have occasion to make a second.

The treatment as found in the books is generally so old as to be really antiquated. Blood letting was perhaps the chief among the older remedies for puerperal convulsions, and it may be that some practitioners still adhere to this practice.

The inhalation of chloroform is perhaps the most popular remedy even now. The subcutaneous administration of

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morphia is a better remedy than chloroform. Some claim that chloral hydral is still better, and it is used by enema.

Dr. Staples, of Dubuque, Iowa, some time ago suggested the subcutaneous administration of a mixture of the tr. aconit. r. and tr. ver. vir., as a remedy not only for puerperal convulsions, but for the same when dependent upon other causes.

We wish to incorporate briefly, in this report the notes of a case, which was treated as suggested by Dr. Staples. Mrs. Gr. White, aged 28; seen first between three and four o'clock A. M. She was found to be suffering most frightful convulsions, black in the face, frothing at the mouth, with stertorous breathing, a pulse numbering 170, and she appeared to be dying. She was far advanced in her third pregnancy, but not in labor. She was large, fleshy, and her face, hands and lower extremities œdematous, the lower limbs enormously distended. As soon as possible four drops each of tr. acouit. r. and tr. ver. vir., were injected into the arm. It was now four o'clock. In forty minutes the injection was repeated, but the ver. vir. increased to six drops. At 5:30 her pulse numbered 78. At 7 o'clock she spoke intelligently, and had no return of convulsions.

Three days after, labor came on and she was delivered of a child which had been dead so long that its tissues were softened by decomposition. She had ceased to perceive motion of the child prior to her attack of convulsions. The urine was highly charged with albumen as was expected. She recovered perfectly, and is in good health to-day. This mode of treatment seems rational and destined to disarm puerperal eclampsia of its terrors and to very materially decrease the mortality among those attacked by this fearful malady.

Rigidity of the os uteri, is said to constitute the most frequent cause of tedious labor. Hence many suggestions have been made and devices adopted to remove the rigidity. Various instrument have been devised and used to effect dilatation

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by mechanical force. We are of the opinion that the use of any such instruments for the purpose of dilating the os uteri at full term must be dangerous and bad.

We believe that the rigidity of the os does not constitute the cause of tedious labor. When rigidity exists it does so, because it is the natural function of the cervix to antagonize the expulsive function of the uterine body.

The condition of the os and cervix, may indeed be considered an index to the uterus, especially during pregnancy and the progress of labor, and when the os is found rigid and obstinately refusing to dilate, some of the following conditions may be confidently predicted, viz:

A mal-presentation or mal-position of the fœtus; disproportion between the presenting part and the pelvis, or shortening of the cord from having been coiled about the neck of the fœtus.

The head in a vast majority of cases is the presenting part. The patient may have been unable to walk or to have been upon her feet even, for weeks, because of pain and soreness in the pelvic region. The uterine wall occupying a position between the head and pelvic bone, has been subjected to pressure, and has become irritated and sensitive, so that during uterine contraction, the intervening portion of the uterus is necessarily subjected to a pinching process, which under strong contraction would cause contusion. This condition and situation are realized by the superintending agency (whatever that may be), and the contractions of the uterus are thereby modified, becoming feeble and irregular. The os meantime maintaining its antagonism to the expulsive efforts.

The uterine os may be dilated in the absence of pain, but immediately upon the approaoh of pain, it returns to its post of guard to protect the uterus. Dilatation by mechanical means is useless. The vulva, vagina and cervix become irritated and sensitive through handling. Dilators cause less or

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more abrasion of the mucous surfaces, by which septic causes are invited, and through which they may enter and induce septicæmia.

Forty years ago, after the foot-bath and after drinking largely of hot teas and hot whisky, the parturient patient was put to bed, required to seize a sheet or rope of some kind, which had been made fast at the foot of the bed and urged to pull and bear down with might and main, and this too, regardless of the stage of labor. When labor proved tedious, an assistant was placed upon each side of the patient and directed to seize the ends of a towel or other strong fabric, which had been thrown across the abdomen and uterus of the patient. Upon the recurrence of pain, the assistants were exhorted to press down upon the uterus with all their weight and strength. The midwife, though urging all parties to bear down, nevertheless busied herself by industriously prying with both hands to dilate the vulva.

This practice, so old and so very properly discarded, might, possibly, upon its revival appear to be new. It is true that the modern differs from the old, inasmuch as the hands are substituted for the towel, and instead of prying at the vulva with both hands, it is proposed to effect dilatation by pulling at the perineum with one or two fingers. The real point to be dilated, however, being at the station next above, (the os uteri,) which is an entity perhaps unknown to many of the older practitioners.

We deny the existence of a reason, for the application of force over, above or upon the uterus, during normal labor, no matter how it may be attempted; the inherent force of the uterus is all sufficient. But, supposing labor to be retarded by a mal-position of the fœtus, a disproportionate relation between the fœtus and the pelvis, by rigidity of the os, or by anything of the nature of an obstruction, we hold that in such cases, or any of them, the application of force, from without

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by either the old method or by the hands of an assistant, is positively dangerous and wrong.

Force externally applied, or excited by the administration of ergot, which intoxicates the uterine system, strongly disposes to accidents, such as rupture of the bladder, vagina, rectum and perineum, or of the uterus itself; and there is like danger of causing laceration of the cervix, contusion of the soft parts, hernia, and possibly of inversion of the uterus. The placenta may be prematurely separated from its uterine attachments, and the life of mother and child be sacrificed through loss of blood, before the labor can be concluded.

We would not be understood as endorsing a do-nothing policy, but the fact, that an obstetrician is morally and legally bound to do his duty, furnishes no pretext for his doing wrong that he may seem to be doing something.

Among all the suggestions in regard to rendering assistance to a patient in labor, it would seem that force exerted upon the uterus, applied from without, must be deemed the most worthy of condemnation.

After suitable preparation as regards cleanliness, the first duty of the obstetrician must certainly be to discover the exact position of the presenting part, which is usually the head. In tedious labors, in which the head presents, the vertex will be found to have failed in entering the pelvis, having lodged against the pelvic brim. Uterine contractions in such cases cause the vertex to depart still farther from its proper position, that is, to extend the chin, advance the forehead and to force the vertex still farther from the inlet, and for reasons already stated the contractions are feeble and irregular.

Force applied to the uterus could not change the relation unless it should be to a face presentation, and in no other way could it influence the labor—an influence which is not at all desirable.

To correct the position, place the patient so as to cause the

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fœtus to occupy a position upon its back and so that the uterus may gravitate from the pelvis, then pass one or two fingers through the vagina and place them upon the front part of the head of the fœtus, and place the other hand over the posterior part of the head, from without, then press upward with the fingers and downward with the other hand over the posterior part of the head and the vertex will easily and quickly enter the pelvis and take its proper place. The patient remaining in the same position until after the first pain, proceed at once to apply to the abdomen large, thick, flannel compresses, wrung out of very hot water, and continue to do so, changing them in quick succession, and within a few minutes the pains become normal, the patient will evince a power and courage which is wonderful, the labor will progress rapidly, and the rigidity of the os will pass away, provided: that no very considerable disproportion exists between the presenting part and the pelvis. Should this be excessive, force must be used, but where birth is possible, by the natural way, the only force which can be at all justified is that force peculiar to the obstetrical forceps, properly used. Some have great dread of the forceps, and harm may be done by persons while attempting to use them, but the cause for injury done with the forceps is somehow divided between the mind that directs and the hand that executes. In proper hands the obstetrical forceps are an indespensable blessing.

The removal of the placenta is a matter of much more importance than a reader only would infer; not so much as to method, as to the time when.

Some tie and sever the cord as soon as possible and pass the child to the nurse; then at once proceed to remove the placenta. Surely, this is not good practice, and whoever may practice after this manner will have experiences with post-partem hemorrhage.

Ordinarily the uterus contracts well down upon the placenta,

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if it does not expel it in its last effort, and then takes a season of rest. During this time a moderate flow of blood continues, which coagulates about the placenta and membranes. In from twenty to thirty minutes slight pain occurs, which announces the return of functional activity, and indicates the proper time for the removal of the placenta, which may now be done with more ease and in greater perfection and safety, than could have been at any previous period. Blood will have coagulated about the placenta, and the fragments of membrane so that they are more easily and surely removed. Should fragments of membrane be allowed to remain, as is nearly always done when attempted too soon, clots will form about them, these disturb the functions of the uterus. It does not contract, and as the flow increases so does the clot. The uturus dilates and the greater the dilation the more free the hemorrhage, and presently the patient grows faint and sick, and unless the uterus be freed from all foreign matters, and speedily too, the patient will quickly die.

It has been proposed to cleanse the interior of the uterus after the removal of the placenta, by injecting a solution of carbolic acid, for the prevention of septicæmia. But this practice cannot be more worthy of acceptance or justification than that other, which insists upon the propriety and necessity of pouring into infants just born such things as molasses and water, salt and water, whisky and water, or castor oil.

Our conclusions are that a large majority of the members of the medical profession have gone into the more brilliant domain of surgery. Many others are devoting their energies to the application of the principles of surgery to the diseases and accidents of women, for the amelioration of suffering, which in amount and degree no tongue can tell, no words express. And after deducting anatomists, physiologists and chemists, the balance may be divided into four classes, viz:

1st. The know nothing.

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2d. The do nothing.

3d. Those who usurp the prerogative of nature, and do everything; and

4th. Those who have been born in the possession of mechanical genius, cautious, watchful, patient, and who know as well what to do as how to wait, and who know full well that "It is but the second law of obstetrics to do good, the first being not to do harm."

DISCUSSION.

Discussed by Drs. W. H. Veatch, of Carthage; E. L. Herriott, of Jacksonville; H. H. Littlefield, of Beardstown; E. P. Cook, of Mendota; L. G. Thompson, of Lacon; L. Bauer, of St. Louis, Mo.; Jos. Robbins, of Quincy; A. C. Corr, of Carlinville; and W.W. Welsh, of Galesburg.

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CAN THE ASPHYXIATED STILL-BORN CHILD BE RESUSCITATED?

By A. C. Corr, M. D., Carlinville.

A certain ambiguity of the obstetric works on this subject, and the fact that it has not been discussed before this society, prompt me to ask this question.

The word *still-born* is a general term applied to the apparent lifelessness of many when just born, and evidently embraces two varying conditions—that of *apnœa* (want of breath), where the child does not breathe readily, immediately after expulsion, and that also of *asphyxia* (want of pulse), where the child, while it does not breathe, has no pulse or action of the heart.

I shall not have time to discuss farther the conditions and varieties of asphyxia, or the causes of still-births, than refers to the inter-dependence between respiration and the action of the heart, or circulation.

Richard T. Evans and Henry Maunsell, when speaking of the degrees of asphyxia, say: "In the worst type, the child may be completely asphyxiated, with no indication of life except, perhaps, the pulsation of the funis, or a feeble action of the heart;" and, when speaking of a "child *completely* asphyxiated," say "the heart *beat* feebly."*

Hufeland speaks of asphyxia as "indicated by no cry, no respiration;" makes no reference to the pulse; evidently does not deem its absence necessary to the condition. †

* Diseases and Management of Children, edited by Condie, pp. 132-3.
† Practice of Medicine, p. 76.

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Meigs and Velpeau, when treating of asphyxia of the new-born, say: "But for the heat which remains, and the obscure motion of the umbilical arteries and the breast, the death of the child would be evident. * * * In general it is safe to abandon all attempts to resuscitate if there is no audible pulsation of the heart, no sensible beating of the umbilical vessels close to the belly; and in *prolapse* of the *cord*, if the cord is cold without pulsation, shrunken, the *death* of the *child* is indubitable." *

Churchill and T. G. Thomas say: "In still-births, referred to, non-oxygenation of the blood, * * there is a very feeble intermittent, or no pulsation of the heart, and absence of respiration. * * The first endeavor should be to establish *respiration* and *circulation*." And, under prolapse of the cord, they say: "Should the delivery have been completed within a short time after the cord has *ceased* to *pulsate*, it will be our duty to employ for some time the usual means for resuscitating the child. So long as the heart beats, ever so faintly, there is hope." †

Cazeaux says: "But if the child is small and feeble, or if the cause of asphyxia has acted for too long a time, the contractions of the respiratory muscles are feeble and distant, and soon cease entirely, and the heart, too, ceases to beat. Though, while the heart is still beating, we may succeed in exciting the reflex action of the muscles of inspiration to the extent of producing a sudden inspiratory movement after every excitation, the symptoms of asphyxia remaining, however, unchanged, the child will die in spite of all that can be done. * * The muscles do not exhibit any motion, the limbs preserve their flexibility, and the body its *heat*. The pulsations of the cord, or of the radial artery, and even those of the heart, are obscure or insensible. * * Finally, if the asphyxia has lasted

* Meigs-Velpeau Midwifery, by Harris, pp. 558, 562 and 393.
† Churchill's Midwifery, by Condie, pp. 328-9 and 442.

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longer than is compatible with the life of the heart, the child will really be dead at the time of its expulsion. * * * *Long continued silence* of the *heart*, the *entire absence* of *pulsation* of the *pre-cordial region*, *frequently determined* at intervals, is the only sign that can be regarded as destructive of all hope. The heart is the *ultimum moriens*, and I do not believe that efforts to restore its pulsations, when once completely extinguished, has ever been crowned with success. * * But there is no reason for abandoning the child, provided the heart still beats, however slowly or irregularly." *

Playfair says: "Encouragement to persevere in our endeavors to resuscitate the child may be derived from the numerous authenticated instances of success after the lapse of a considerable time, even an hour or more. As long as the cardiac pulsations continued, however feebly, there is no reason to despair. * * The important thing to be determined in *prolapse* of the *cord*, is whether the cord be pulsating or not; for the pulsation, having entirely ceased, the *inference is* that the *child is dead*, and the case may be left to nature, without further interference." †

Leishman says: "When the *pulsation* of the *cord* has ceased, we *need* act no longer in the interest of the child;" and in this connection says nothing about artificial respiration. ‡

Budin says: "In cases of asphyxia of the new-born, we should wait for respiration and *beating* of the *heart* to be established before ligating the cord." ‖

I infer from the authors so far quoted that cessation of the heart's action is identical and coincident with the cessation of the pulsation of the cord, if respiration is not begun. Whether this is a fact or not, brevity forbids me discussing farther.

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* Cazeaux' Midwifery, pp. 509–13.
† Playfair's Obstetrics, pp. 328 and 552.
‡ Leishman's Midwifery, p. 353.
‖ Budin, French Journal, Jan. 15, 1876.

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Dr. G. B. Walker reported a number of still-births to the Tri-State Medical Society that were successfully resuscitated, but did not say that in any case the heart had or had not ceased to beat." *

Dr. Schutze, of Jena, in an epistle to Ludwig on still-births, leaves the matter indefinite, but leaves one to infer that he did resuscitate after the heart ceased to beat. †

Sir Benj. Brodie says: "If the action of the heart, by which the circulation is maintained, should cease as a consequence of suspension of respiration, it never can be restored. This I positively assert, after having made it the subject of very careful investigation." ‡

Dr. W. H. Byford says: "As a general rule, it is sufficient proof of the death of a fœtus to be unable to discover any signs of circulation. If the heart does not beat, there is but *little* doubt that the fœtus is dead; yet there is that *little doubt*, provided there are no other positive signs of death, such as decomposition. * * * From an opportunity I have had of computing the time a fœtus may survive complete arrest of circulation of the cord, I judge it to be about *forty minutes*, plenty of time, in most cases, to bring the head through the pelvis.‖

Dr. W. C. Rodgers reported twenty-four cases of resuscitated *still-births*, in which the average time required to establish *respiration* was thirty minutes, but does not state whether or not the heart had ceased to beat in any. ¶

Dr. G. S. Bedford says: "If the child should not breathe for an hour, or even much longer after birth, it should not be abandoned as dead. * * * A newly-born infant, affected

* G. B. Walker Prof. Obstetrics, Evansville Med. Col., Oct. 17, 1874.

† Review of Schutze to Ludwig, Amer. Jour. Med. Scien., 1871.

‡ Sir B. Brodie, Bedford's Obstetrics, p. 371.

‖ Byford's Obstetrics, pp. 236 and 436–7.

¶ Late Dr. W. C. Rodgers, of Green Island, Amer. Med. Monthly for 1860.

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with *asphyxia*, should not be regarded as dead, because its *heart* has *ceased* to beat, for it has been demonstrated that life may be restored after the pulsation of the heart had ceased more than five minutes." * This is recorded by Bedford, with the full knowledge of the denial of Brodie, as quoted above.

From what I have quoted, and I think I have selected from a fair average of the standard works and periodical literature in this country, I think it may be plausibly inferred that the question, "Can the asphyxiated still-born child be resuscitated ?" is unsettled. From the same source, however, it seems legitimate for one to infer that such resuscitation may be accomplished. Hence we would better go over in the domain of physiology, and see if this inference may or may not be strengthened.

Physiology teaches that the placenta is at once the nutritive, excretory and respiratory organ of the fœtus, and that its activity ceases about the moment of the child's birth, by being compressed by the womb and torn loose from its attachments, and that its functions respectively are assumed by suitable organs of the child at this critical period.

That the new function of pulmonary respiration should be tardily or sometimes never assumed, in consequence of perturbating influences or traumatisms coincident with birth, is not to be wondered at; and when it is shown that the new-born fœtus, or child, is more nearly allied to the cold-blooded and hybernating animal than the older child or adult, and therefore does not require the immediate, abundant and unremitting supply of oxygen that the latter does, we can readily infer that it may survive an entire want of supply for a short time.†

Flint says the temperature of infants just born is from one to four degrees lower than the older child or adult, and it is

* Bedford's Obstetrics, p. 371.

† Buffoon, Legalois, Meilne Edwards; W. F. Edwards, Regnault; Reset, Haller; Spallanzani; Brown-Sequard and others; Flint's Physiology, pp. 54, 90, 143–7, 150, 165–6–7–8–9.

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well known that inactivity and low temperature in animals require less oxygen and less activity of circulation.

Spallanzani could not detect any difference in the composition of the air in which a hybernating marmot had been kept three hours. Others have shown that just after birth, dogs, rabbits, and other animals will live for half an hour or more under water, and Flint says, "cases are on record where life has been restored in *newly born children*, after from seven to twenty-three hours of *asphyxia*."* True, we are not informed as to the degree or variety of asphyxia referred to, but from the connection in which the statement is made, I presume that *asphyxia, want of pulse*, was meant; certainly, it was not less than *apnœa*, with the placental attachment severed.

Taking these physiological facts, in connection with those clinical observations of Byford, Bedford and others, of resucitation of the still-born after long delayed respiration, either pulmonary or placental, I feel forced to ask the question: Will the heart continue to pulsate and circulate an increasingly nonoxygenated, vicious blood all this time, from forty minutes to twenty-three hours, without respiration?

To the affirmative, I confess a degree of incredulity, perhaps, though it can be proven to be true.

However, let us inquire what would be involved in a revival of the heart's action when once it ceases from engorgement which paralyses it, as is evidently the case in asphyxia. The *besoin de respirer*, respiratory sense, or that sense which eventuates in a respiratory act, when a want of oxygen is felt in the system, has been abundantly proven by Flint and others to be situated in the medulla oblongata; and observations, during vivisections, when the chest is open and voluntary respiration impossible, have shown that, as long as artificial respiration is kept up with the bellows in the trachea, the animal makes no effort to respire, but as soon as artificial respiration is discon-

*Ibid.

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tinued, voluntary efforts are at once begun from a sense of want of oxygen in the medulla. Respiration being impossible, the heart becomes engorged, because deoxygenated blood will not pass readily through the systemic capillaries, and very *soon* ceases to beat. Just how soon is not definitely settled. Flint says, "it is very much retarded at the end of two minutes." I saw one instance where the animal died—heart ceased to beat—in less than five minutes. This is very probably just what occurs in asphyxia from apnœa in the still-born.

To establish *pulmonary* respiration, after the placental has been discontinued, involves the exciting to activity an organ which has not performed such function thus far in the life of the individual, and bringing into functional activity, nerves, nerve cells, nerve centers, muscles, articulations, chemical and endosmotic processes never before in action; depending for their susceptibility on transmitted qualities, long dormant; having none of that susceptibility to *assumption* of action, which *habit* would guide to in *resumption* of action in the heart. I admit that I am in deep water, but speculation is entirely legitimate in a field of uncertainty, and I think there is some analogy and a few facts to help me out. To deepen the water, however, Flint, when treating of asphyxia in general, says: "It is the experience of those who have experimented on this subject, that the movements of the heart once arrested in this way cannot be restored, but while the slightest regular movements continue, its function will gradually return if air be re-admitted to the lungs."*

The heart has irritability, like the respiratory muscles, that will respond to proper stimulus; that stimulus seems to be its normal contents. Its primary nerve sense that incites its fibres to action is located within its own structure. It has a modifying influence derived from the pneumogastric, which

*Physiology, p. 169.

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arises in the spinal cord or medulla, near the seat of the respiratory sense, hence, I am almost impelled to presume that the heart may be actuated by the same influences that excite the respiratory act. It has also an accelerator nerve, derived from without, so that by the sympathies of the system its action may be slowed, accelerated, or absolutely stopped, and are we not almost forced by the same logic to admit that its action may be resumed? Now, what is the condition of the heart when its functional activity is stopped by *apnœa* or hindrance of respiration? It is a condition of paralysis by engorgement, with its irritability not at all impaired. I believe the irritability of the heart lasts longer after death by violence than in any other muscle of the body. Is it not, at least, reasonable that this irritability may excite it to contraction when the condition of engorgement is relieved by sudden expansion of the lungs by artificial respiration, if not too long delayed? If it contracts, may it not dilate? May not its more simple habitual function of contraction and dilation be resumed as readily as the very complicated one of the lungs may be assumed that has never been in activity before?

It may be said that the heart could not circulate the blood when once it has stopped, because of coagulation. It has not been proven that mere stasis is the only requisite to coagulation. Coagulation is rather attributed to decomposition; perhaps the lowered temperature of the new-born is to delay this process.

Flint says, the heart's action is temporarily suspended in syncope. It certainly is stopped or suspended in cases of bleeding to death, before being revived by transfusion. I witnessed a learned demonstration of fatal bleeding and resuscitation by transfusion. It was said the animal is dead. It was certainly implied that the heart had ceased to beat. The animal soon manifested life when its own defibrinated blood was returned by transfusion. I infer it was an instance of

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resumption of heart's action after an entire cessation, and I fail to see that the conditions involved were any less complicated than those in the *asphyxia of the new-born.*

Brown-Sequard has demonstrated that muscular irritability lost in absolute death, may be restored for a time by the injection of fresh blood, and as an experiment restored by transfusion a dog just dead of peritonitis. "The animal was so far revived by this operation as to sustain himself on his feet, wag his tail, and died a second time twelve and a half hours later." The analogy was even greater in this case, for insufflation of the lungs was made in conjunction with the transfusion.

Flint says, "If a syringe be introduced through the right jugular into the right side of the heart, and a great portion of the blood be suddenly withdrawn from the circulation, immediate suspension of all the *so-called* vital processes is the result, and if the blood be soon suddenly returned, the animal is as soon suddenly revived."* In this, too, it is implied that the heart's action is stopped and resumed again under suitable conditions.

From these instances, though not exactly analagous, I think it may be concluded that the heart's action *may*, in some instances, be revived when stopped in, otherwise, death. Then when we consider that the stimulus and excitor of this action is the normal contents of its cavities, we have a right to go back to the asphyxiated new-born, with its heart paralyzed with engorgement—not want of irritability—and ask why may not it contract when the engorgement is removed by artificial dilitation of the lungs, and if the lungs would go on contracting and dilating thereafter, why may not the heart?

With this view before me, it requires no more stretch of imagination to presume that the heart's action may be revived, when only having ceased for a few minutes in asphyxia from

*Flint's Physiology, pp. 1, 2.

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apnœa, than it would require credulity to believe the fabulous stories of its continuing to pulsate for minutes, hours, and even a day, without the blood being oxygenated by respiration in some way.

It may be seen in these physiological references that the child, still-born from hemorrhage, is a suitable subject for the experiment of transfusion; and that if we cannot give immediate attention to the asphyxiated new-born, it ought to be kept cool instead of warm, till we can begin to apply the proper processes for resuscitation.

Now, while this question must still remain open until some well and carefully observed facts shall settle it, if I shall have induced any one to attempt and successfully resuscitate a still-born child that otherwise would have been abandoned and lost, I shall be richly rewarded, though I may never know it.

The quotations are *verbatim* but italicised by me.—A. C. C.

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MORBID ADHESION OF THE PLACENTA

WITH

LACERATION OF THE FUNIS UMBILICALIS, COMPLICATED WITH HOUR-GLASS CONTRACTION.

By Wm. H. Veatch, M. D., Carthage.

Mr. President :

I was called March 8th, 1882, to see Mrs. T——, in her second confinement. I found her extremely nervous and anticipating some great calamity. A foreboding of imminent danger appeared to possess her mind. Hysterical breathing and some disturbance of the heart's action were present. She said she had gone three weeks over her time. The pains were irregular, being sometimes in one side of the abdomen and sometimes in the other; sometimes at the fundus, and at others, low in the pelvic cavity.

On first examination the os uteri could not be felt, but the fœtal head could be felt through the uterine walls. After an hour's delay a second examination was made by passing two fingers in the vagina, and pressing with the knuckles of the other two fingers firmly against the perineum, I succeeded in finding the anterior lip of the os.

The index finger was now used as a lever, and the second finger as a blunt hook in the anterior lip of the os. The left hand being pressed firmly against the lower part of the abdomen, I pulled slowly, steadily and firmly until the os was brought in a line with the vagina. Here it was held until a

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firm contraction caused the os to dilate, and the uterus to retain its normal position.

The os was now dilated to the diameter of a silver dollar, and there was an abudant flow of mucus, and a soft and relaxed condition of the soft parts, admonishing me to be prepared to receive the child.

A second regular contraction came on in a few minutes, engaging the head in the osseous cavity, and breaking the amniotic membrane. The pain was speedily followed by a third which expelled the child and with it came the funis umbilicalis completely severed from the placenta.

The child was partially asphyxiated, the cord being twice around its neck and only fourteen inches in length. A portion of the placental membranous covering came with the cord together with small shreads of the placenta proper. Unwrapping the cord from the neck of the child I grasped the cord between thumb and finger and immediately ligated it. The child began to breathe and I handed it over to a nurse and turned my attention to the mother.

Placing one hand in the vagina to explore for the placenta, I found she was flooding profusely. Passing my fingers up they came in contact with a portion of the placenta protruding from the mouth of the womb. Placing my other hand on the abdomen I realized that I had an hour-glass contraction to contend with, as well as an adherent placenta, the later being so firmly held by the contracting uterus, that it was immoveable. All the manipulations I could make over the fundus only caused the central uterine bands to contract the closer on the imprisoned placenta.

The loss of blood began to produce feelings of syncope. So without further delay I introduced my hand into the vagina, and thence insinuated the fingers in the form of a cone into the uterus, and when the largest part of the hand was surrounded by the central bands of the uterus, the hand was

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forcibly closed making the fist as large as possible for the purpose of overcoming the hour-glass contraction. Several times I was compelled to relax my efforts on account of the extreme pain produced by the rigid contractions of the uterus completely paralizing my efforts. After a time, however, I succeeded in so far overcoming the contractions as to allow me to peel away the adherent placenta. The womb now contracted normally, and it was allowed to expel the hand with the placenta and clots.

All alarming symptoms were at an end, and the woman made a good recovery. She was somewhat prostrated for a few days from the loss of blood, but she was out of bed in three weeks.

Case second.

I was called April 5th, 1882, to see Mrs. B——, aged twenty-seven years, in her first confinement. She had been married six years, but was never pregnant before. She said she had always been healthy and regular in her menstrual periods up to the time she became pregnant, but had suffered a good deal ot pain in her back. She also thought she had gone a month over her time.

She had been suffering from sickening pains for twenty-four hours, and had more pain in her head and stomach than in the uterus or back.

On examination, the mouth of the womb was found far back against the sacrum, and dilated to the size of a silver half dollar.

Hooking the finger into the open os in the absence of contraction, it was drawn forward and held in a line with the vagina until contractions came on and held it in place.

The os now fully dilated, the head engaged in the pelvis, and the sack of water began rapidly to fill, giving encouragement that the labor would soon terminate, but I was destined to disappointment, for at this stage the pain began to break,

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as it were in the middle and to fly all over her as she expressed it, and thus continued several hours with no beneficial effect.

There being no rigidity of the os, and the soft parts being thoroughly relaxed, in my judgement an abundant pelvic capacity, I administered ergot in moderate doses every half hour, but with no advantage.

After several hours waiting and wondering why the labor should be retarded, I gave a drachm of the fl. ex. of ustilago maidis, which so increased the uterine contraction that at the end of the first half hour the pains were perceptably stronger and more regular, the patient also became more courageous, and at the end of an hour, the pains were exceedingly strong and severe, but without advancing the labor in the least.

I was much puzzled to find a solution to the cause of the retarded labor. But after several hours of severe labor, the child began to advance suddenly at about the middle of a long contraction, and the next effort expelled the child and with it the funis umbilicalis and a small portion of the placenta. The cord was wrapped twice around the child's neck, under the arm, over the abdomen, and the placental end lay dangling between the thighs of the child. As soon as the child breathed I tied the cord and turned it over to a nurse and gave attention to the mother.

It was not a moment too soon, she was pale and about to faint. Placing my hand on the abdomen the sudden conviction flashed over me that I had another case of hour-glass contraction to contend with.

On placing the other hand in the vagina, I found a large clot, on removing which a gush of blood took place which became at once alarming. Without delay I introduced my hand, overcame the hour-glass contraction, pealed away the adherent placenta, allowed the normal contractions to force my hand away with the secondines, and in a few minutes the uterus

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was contracted firmly and permanently. This lady was up and about the house in two weeks.

These are the only cases of the kind I have ever encountered That they are uncommon I need not mention. If any such cases have occurred in the practice of any other member of the society I should be pleased to hear the details of them. With an experience of twenty-six years, and an aggregate of about twelve hundred obstetrical cases, I have not met with anything of the kind before. Why two such uncommon cases, and so nearly alike in character, should befall me in the short space of twenty-eight days, I am at a loss to understand.

The condition of the children in utero were practically the same. Both were so wrapped with the cord that they could not pass through the pelvic bones without either dislodging the placenta from the womb or rupturing the cord, and the adhesions of the former being stronger than the external membrane, the latter gave way under the extreme pressure. In each case the adhesion was on the left side of the uterus. In each, the child was a female. In each, the uterus was, and I presume had been greatly anteverted. In each, the cord did not exceed fifteen inches in length. In each, the cord was twice around the neck of the child. In each, there was firm hour-glass contraction. In each, the child was partially asphyxiated. In each, the mother said she had gone over her time for confinement, and in each, both the child and the mother survived.

The only point of material difference was the duration of labor. While one was rapid and powerful, the other was powerful but tedious.

The lady whose labor was rapid made the most tardy recovery.

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REPORT OF THE COMMITTEE ON GYNECOLOGY.

EDWARD W. JENKS, M. D., CHAIRMAN, CHICAGO.

INTRODUCTORY.

I desire to express my thanks to the society for the honor it has conferred upon me, in appointing me to the chairmanship of the committee on gynecology. I cannot let this opportunity pass by without reference to this distinction, in view of the fact that I am quite a stranger to most of the members, and that last year was the first time it has been my privilege to attend a meeting of the society.

In submitting a report on the advance made in the field of gynecology during the past year, I will not attempt to make a complete review, for in so doing, either the report would, of necessity, be tediously long or of a superficial character. On the other hand, I will not discuss a single subject, as is sometimes done, but will bring to the notice of the society some of the leading surgical subjects which have of late engaged the attention of the gynecological world.

AMERICAN GYNECOLOGY.

As an American, the writer is proud of the record which American gynecology has thus far made. No other country can show such an array of talent as can be found to-day among the gynecologists of our own land. A report of the work of a single year in the United States alone would make such a showing as cannot be found elsewhere. Europeans have been slow and apparently unwilling to give full credit to the advance made in medical and surgical science and art by Americans.

As was asked, contemptuously, not many years ago, "Who

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reads an American book?" so it has in the past been customary abroad to question, in the same spirit, the value of American medical literature, and by manner and language imply that it was of but little value.

Without referring further to foreign opinions relating to other departments of medicine and surgery, it will suffice to say that many of the writings, as well as the prevalent modes of practice, of American gynecologists are greatly esteemed in all parts of the civilized world. While this is true, many features of what may be termed American gynecology are criticised, but not sneered at as formerly. Operations or modes of practice that cannot undergo the ordeal of severe criticism and thorough investigation, from whatever source they may emanate, cannot be worthy of commendation or general adoption.

Garnier, in the last issue of the *Dictionaire Annuel**, in writing of the past year's work in the field of gynecology, refers to our own country and some of its gynecologists as follows: "A phenomenon similar to that which was manifested in France a half of a century ago under the influence of Recamièr and his friends, has actually taken place in the United States of America. Physicians and patients see only diseases of the uterus; all morbid influence start from that central organ (of gestation), all sufferings and pains emanate from it. It is the great guilty one from which all evils come.

"Without being able to fix the origin of this gynecological movement, the name of Marion Sims ought not to be a stranger from the celebrity which he has acquired in this specialty, and the numerous operations which he has made. His famous incision of the neck for sterility has had a great resounding, and his speculum has carried his name to the extremities of the civilized world.

"It is not astonishing that, in a country where ovariotomy

* Dictionaire des Progrès des Sciences Medicales, etc., par M. P. Garnier. Paris, 1882. Art. Gynécologie, p. 229.

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originated, so many other gynecological operations should have birth in its suite. The special treatment of fistules by Bozeman and its numerous modifications, the oöphorectomy or normal ovariotomy by Battey, and trachelorrhaphy, or the operation of Emmett; to cite only the principal ones, without counting massage of the uterus* which crowns them, showing that a special surgery has been born there. This gynecological surgery will soon be separated from abdominal surgery.

"Is this good or bad? Even in France the idea has been carried to a monomania that the uterine affections have caused most of the abuses and lamentable excesses in treatment, such as cauterization by wholesale, abuses of the speculum, of pessaries, ablation of the neck under pretext of cancer from the least ulceration. It is very strange if, with such examples, the same causes should not produce similar effects in America."

This author proceeds to criticise in a mild manner the prevalent opinion among the gynecologists of our country that lacerations of childbirth are the cause of many sufferings, and concludes his article by commending the activity of Americans in their medical societies; and, in referring to the American gynecological society, says there is nothing like it in France, and that it will, by its transactions, have a tendency to advance this branch of medical science in America.

LACERATION OF THE CERVIX UTERI.

At the International Medical Congress, recently held in London, American gynecologists participated, and among the discussions the operation of Emmett came in for its share. A lamentable ignorance was exhibited by many Europeans regarding it, and to the writer it seems as if many absurd statements were made concerning it. The readers of medical journals cannot have failed to see that even among the periodical

*This refers to the paper by our fellow-member, A. Reeves Jackson, in the Gynecological Transactions for 1880, entitled "Uterine Massage as a means of treating certain forms of Enlargement of the Womb."

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publications, the discussion there begun is being continued to the present time.

At a meeting of the Obstetrical Society of London, March 1st, 1882, a paper was read by Dr. Playfair on the subject of Emmett's operation, in which he paid a high tribute to Dr. Emmett for introducing it, and spoke favorably of it. In the lengthy discussion which followed the reading of the paper, some spoke of the operation disparagingly; others gave it but faint praise, while still others, holding high positions in the gynecological world, seemed to exhibit an inexcusable ignorance of the operation and all which its friends and advocates claim for it. It would seem as if men holding such distinguished positions as some of the participants in the discussion do, should not attempt to discuss so important an operation without attaining a more exact knowledge of what they were talking about. As an illustration of the character of the discussion, Dr. Savage made in substance the absurd statement that the American school professed to believe that every disease (none excluded) incidental to the uterus might be, and generally was, the direct consequence of a cervical laceration. The English school disbelieved this, on good grounds: one apparently being, as stated by Playfair, that lacerations could not be seen distinctly by means of a Fugerson's speculum. Dr. J. Matthews Duncan did not think Emmett's operation was by any means one of the greatest advances in modern gynecology. It is at best but a small affair, and he was not impressed in its favor. Much more that has been published during the past year in foreign countries relating to this operation might be referred to, but to your reporter it seems needless. In the United States Emmett's operation has been discussed in every medical society in existence, and every medical periodical has had article after article on the subject. Probably there is not one member of this society present but has some kind of an opinion regarding it. It will not be dwelt upon at

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length in this report, but there are some particular points to which your attention will be directed.

We are warranted by the past experience of many, in the statement that it is one of the greatest advances in modern gynecology. At the same time it is an operation which, to the writer, seems liable to many and great abuses. It is such an easy solution of the trouble where there is suffering from many derangements of the ganglionic system, to attribute every discomfort to laceration, if there is found by physical examination of the cervix uteri that it has been torn. Now, many such patients are at once advised to have an operation, and yet many who are successfully operated upon are no better than prior to the surgical procedure. Under such circumstances the operation is brought into disrepute, and faith in its utility weakened or destroyed. In what class of lacerations will the best results follow restoration? Unless the surgeon is able to answer this question, or has some fixed belief on the subject, he will often meet with disappointment. The mere fact that, associated with certain symptoms and sufferings, there is also a laceration of the cervix uteri of greater or less extent, does not cause it to follow in every instance that an operation will end the symptoms and sufferings. The gynecologist who has had much experience with this operation can look back upon many disappointing cases. Here, as elsewhere, experience proves a valuable teacher. The writer's experience has taught him that the most satisfactory results follow the operation in those cases where there is the most cicatricial tissue, with more or less connective tissue growth, the neck being enlarged and cystic degeneration or nabothian glands notably developed. Those instances where there have been lacerations, leaving but few or no cicatrices, no ectropion, no particular enlargement of the organ, and no nabothian bodies visible, do not particularly demand an operation, and are usually the disappointing ones. On the other hand, where there exists an hyperplasia of any part of the

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uterus, there is no therapeutic agent or mode of treatment to be compared in good results to the operation under consideration. In many cases of this character by cutting away a small V-shaped piece from either one of the uterine lips, and securing union by the first intention with the aid of sutures, often proves, by causing a process of involution, one of the most efficacious remedies in uterine hyperplasia, although there has been no laceration.

It may be given as a general rule that even where there is laceration, an operation is not required if there is no eversion. On the other hand, it may be said with equal emphasis, that an eversion cannot be cured by any kind of topical application.

It should not be forgotton that there is, in connection with the operation of thrachelorrhaphy an important prophylactic measure, namely, the prevention of epithelioma. There is every reason for believing that if the cervix is torn, and there is eversion in consequence, the constant irritation of the raw everted lips may be the starting point of a cancer. With this belief, although in violation of the general rule above stated, we may be warranted in operating for a lacerated cervix, where there is no marked eversion or no constitutional symptoms, if have we reason for believing that such a patient has an hereditary tendency to cancer.

CICATRICES OF THE VAGINA AND PERINEUM.

Cicatrices, in consequence of childbirth, giving rise to neuralgia, neurasthenia, and many other reflex disturbances, are not limited to the cervix uteri alone. Although not having attracted such general attention, it is none the less true that cicatricial tissue about the vagina and perineum, produces the same reflex disorders, the only difference being in degree rather than in quality. Thus, it has frequently happened in the practice of the writer, that the restoration of a perineum

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but slightly lacerated, has been followed by a more improved state of general health than perineorrhaphy alone could possibly bring about. In the report on gynecology presented to this society last year, Dr. Dora touched upon this subject inferenitally however, by calling attention to the comparative merits of perineorrhaphy and trachelorrhaphy. If the nerves are impinged upon by cicatricial and connective tissues in the uterine neck following laceration, and give rise to reflex disorders, we are warranted in assuming that the same condition about the external generative organs will give rise to similar disorders.

At the meeting of the American Gynecological Society, in 1876, Dr. Skene, of Brooklyn, N. Y., read a paper on "Cicatrices of the Cervix Uteri and Vagina," which, at the time, gave rise to some discussion, but the subject has not, in the opinion of the writer, attracted sufficient attention; more particularly as relates to cicatrices of the vagina.

In cases of cicatrices of the perineum from laceration, the most effectual mode of treatment is the operation of perineorrhaphy; but if they extend into the vagina, beyond where denudation is required, then nicking with scissors and further treatment by means of pressure with glass or hard rubber plugs, will cause their absorption.

In conclusion of this portion of my report, it may be added that experience has taught gynecologists the importance of avoiding such topical applications or surgical procedures about the neck of the womb, or the external organs of generation, as cause dense scars to be formed.

OVARIOTOMY.

Among the old and yet ever new subjects which have engrossed the attention of the gynecological world during the past year, is ovariotomy. Until quite recently, the vexed question in connection with the operation, has been: How shall the pedicle be disposed of? This has ceased to be the unanswerable

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query. It is but a short time since the majority of ovariotomists used a clamp on every pedicle where it was possible, and cases were looked upon as unfortunate ones when it could not be applied.

Where the pedicle was very short, it was ligated by different methods and with a variety of substances. Now, the clamp is universally discarded, and the prevalent mode of treating the pedicle is to ligate with double ligature in two halves, cut both ends of the ligature short, drop the pedicle into its normal place, and then close up the abdominal wound.

Dr. Keith, the most successful ovariotomist in the world, treats the pedicle after the following manner: He catches hold of the tumor with a strong forceps, and after cutting away the bulky portion of the tumor, a clamp is put upon the pedicle on the cardiac side of the forceps, the latter are removed, and the pedicle, about an inch and a half long, which projects beyond the clamp, is heated by an iron cautery, heated to a black heat, by which means he slowly shrivels up the tissues of the pedicle down to the clamp. He is particularly careful to protect the peritoneum and abdominal viscera during this process from the heat of the iron by a wet pad, and also takes measures to prevent the debris of seared tissues from entering the cavity, by wiping from time to time, the stump with a cloth. The pedicle being burned away to the clamp, the latter is then removed; if there is no bleeding, nothing more is done; but if he fears hemorrhage, he transfixes and secures the pedicle with a ligature. Dr. Homans, of Boston, who is a very successful ovariotomist, both ligates and sears in every instance, he, like many others, not being willing to trust the pedicle without its being securely ligated.

My own method of treating the pedicle, is to apply Storer's clamp shield to the tumor itself or to the pedicle if it be a long one, two or three inches beyond where the final ligature is to be placed, and then cut away the tumor. This is done for

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the better management of the pedicle. Then a dull needle, armed with fine silk, is passed through the pedicle where the ligature is to be placed, a double ligature of silk well waxed is placed in a loop of the fine silk, and made to follow the needle as it is withdrawn. I consider it important that the final ligatures should cross each other in the pedicle, so that in tightening the knots there will be no tearing of tissues and subsequent bleeding. The pedicle is then severed with a thermo cautery, heated to a dull red heat. The question which seems to have chiefly engrossed the attention of ovariotomists during the past year is, to what extent are antiseptics to be used; or more properly perhaps, is Listerism desirable in ovariotomy? There was great surprise everywhere at the discussion which took place at the International Medical Congress, when Keith, who had been known but a short time before, not only as a very successful ovariotomist, but an ardent apostle and sincere follower of Lister, announced that he had relinquished Listerism. Lister himself, was called upon to sustain his mode, but he was silent instead.

You are all, doubtless, as familiar as myself with the discussions which have since taken place in society meetings, and through the medical periodicals on the advantages and disadvantages of pure Listerism and modified Listerism.

With reference to Listerism in ovariotomy, there is an unsettled belief. Of one thing there can be no question, viz: that since Listerism has been used in ovariotomy, the percentage of recoveries has been greatly augmented.

It is plainly apparent, that while the belief in the value of pure Listerism is daily diminishing, there can scarcely be found a single gynecologist in our own country who is not a believer in a modified Listerism, or rather in the value of antiseptics, to a greater or less extent in ovariotomy. In my opinion the antiseptic treatment, as advocated by Lister or Listerism, should be scrupulously avoided by the ovariotomist. I

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have arrived at this opinion within the past year from my own experience, added to the testimony of others of much larger experience. In two instances where I carried out Listerism in all its details, my patients died. One was evidently poisoned by carbolic acid, and the other died from peritonitis, caused, I believe, by the carbolic acid spray. Keith, in a recent paper, states that not only have his patients died from the use of carbolic acid, but he himself has been poisoned by it.

In this country there are several quite prominent gynecologists who still adhere to the full antiseptic treatment in ovariotomy, yet the number is gradually diminishing.

It is my own belief that the carbolic acid solution of sufficient strength to destroy bacteria, is a dangerous agent to apply to the peritoneum, and unless of that strength it posesses no advantage over pure water. Lister, in commenting on a death from carbolic acid spray, reported to the Clinical Society of London recently, states that carbolic acid is too powerful to be safely applied to a delicate subject. Since Lister announced his views concerning antiseptics, the medical profession of the civilized world has been taught by his method as never before the value of absolute cleanliness in surgery.

In ovariotomy, the operator, assistants and patients, should be thoroughly clean, as well as the room, bedding, sponges and instruments. Sponges should be steeped in a carbolic solution or some disinfectant for a number of hours; sprays should be directed over the bed and operating table for an hour previous to the operation, but not as heretofore practiced, so as to enter the peritoneal cavity. The sponges, after being steeped in a disinfectant solution, should next be put in pure boiling water. During the operation, pure warm water alone should be used for the sponges.*

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*In the few months' time between the writing of this report and its publication, the writer performed five ovariotomies, of which four recovered and one died. With each one especial pains was taken to keep carbolic acid

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The next point of importance in this operation, which has been discussed somewhat of late, is in regard to the best method of treating adhesions. There has nothing particularly new been brought to the notice of the profession. It is from the site of detached adhesions that dangers to the patient often begin, as from these localities blood is apt to ooze and septicemia follow. It is, therefore, of vital importance that every spot showing the least inclination to bleed, should be secured against such an occurrence. The peritoneal cavity should not be closed until the operator feels secure on this point. Where a ligature can be applied it should be, as there is no better method. There does not exist perfect unanimity of opinion among ovarotomists as to the kind of ligatures to be used. There are some who say the best material is carbolized catgut. To this I cannot assent, for reasons which seem to me good, namely, it is a difficult task to securely tie a knot in catgut, as the material is apt to stretch by moisture, and the ligature thus be rendered useless. Catgut itself, as I have observed in post mortem examinations following ovariotomies, is not less inocuous than silk, and finally carbolized sutures, whether of catgut or any other material, should not be used within the peritoneal cavity. The best of all ligatures, whether for preventing bleeding from torn adhesions or any other purpose in this locality, is clean silk well waxed. The best silk for ordinary adhesions is the

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from the peritoneal cavity. The general plan pursued was the same as mentioned above. In one case over thirty ligatures were left in the peritoneal cavity, and, although there was no drainage, the patient made a good recovery. Extensive adhesions were present in all except the fatal case. The writer is convinced that, to secure success in the greatest number of ovariotomies, operations should not be performed in general hospitals nor in the presence of many spectators; neither should they be made at a distance from the operator's home, and left to the care of inexperienced attendants. The best places for ovariotomies are in well-regulated private hospitals, with well-trained nurses under the supervision of the surgeon, or in private houses, for the time being practically converted into private hospitals, with the same kind of nurses and attendants. As bearing on this topic the reader is referred to statistics of Peaslee's ovariotomies, in the Oct. number of *Amer. Jour. Obstet.*, for 1882.

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Chinese. Another method of checking oozing in these cases, is the use of hot water, or rather the application of sponges dipped in hot water, and rapidly squeezed as dry as possible and applied quickly. In a recent case, where there had been adhesions to the abdominal walls, and no opportunity for the ordinary application of internal ligatures, but the bleeding persisted, I passed a ligature from the outside into the cavity across all of the oozing surface, and then externally, so as to put this portion of the abdominal wall in a fold, and then tied the ligature externally. The ligature was removed at the end of twelve hours after effectually doing its work and without causing any trouble.

Of drainage of the peritoneal cavity after ovariotomy, but little new literature has appeared. To the lamented Peaslee, upon whose method there has been no particular improvement, are we indebted for this mode of treatment. In cases where the operator has reason to fear that in spite of every precaution, there is danger of oozing of blood, then a drainage-tube should be inserted.

The success of ovariotomy does not depend as has been said wholly on the selection of cases, nor in Listerism, but rather in careful attention to every minor detail, perfect cleanliness, a careful sponging of the peritoneal cavity so that no blood or irritating substance remains therein; proper after-treatment, and last to mention, but first of all to attend to, is a careful preparatory treatment of the patient.

HYSTERECTOMY.

Among the major gynecological operations of which, during the past year, the periodicals and other publications have contained many papers and allusions, is complete hysterectomy for malignant disease. The details of either vaginal or abdominal hysterectomy cannot well be discussed in this paper. Of the first named, or removal of the entire uterus for cancer, there have been several reports; but by far the best paper on the subject,

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giving the report of a successful case with minute details of the manner of operating, and after treatment of the patient, was written by Dr. Fenger, of Chicago, and published in the *American Journal of Medical Sciences* for January, 1882. Other successful cases have been reported, but none as well or in as instructive a manner as this one. The difficulties attending removal of the entire uterus per vaginum seems to have been one of the chief reasons given for the more general adoption of Freund's method, as the abdominal hysterectomy is now generally designated. On the other hand, Dr. Playfair, in his presidential address to the Obstetrical Society of London, 1882, says: "Probably the extreme complexity of Freund's operation may account for the small degree of favor it has as yet received in Great Britain. No one can doubt, however; that in these days, in which uterine symptoms receive much earlier attention than was formerly the case, malignant disease of the uterus may very frequently be detected before it has spread to any of the surrounding tissues, in which it is strictly limited to the uterus, and in which that organ is still perfectly mobile. Perhaps there is no organ in the body excepting, possibly, the mamma, in which total extirpation promises more successful results, if only a comparatively simple operation could be devised. It is worthy of note that the great obstetrician, Dr. Blundell, fully recognized this fact long before the days of abdominal surgery had commenced, and actually removed the uterus in four cases from the vagina; and I am by no means certain that some modification of the plan may not yet be found easier than Freund's operation." Dr. Playfair then mentions the fact that Bilroth has "resorted in several cases, in some successfully, to a modification of Blundell's operation, which he maintains to be far more easy and satisfactory than Freund's."

In the *Revue des Sciences Medicales*, of April 15, 1882, is a collection of thirty-five abstracts relating to tumors of the

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ovary and uterus, of which several are on the subject of "Total Extirpation of the Uterus for Malignant Disease." Among these papers is one by Schrœder, in which the author mentions the various operations on the uterus for cancer, as amputation of the neck, total extirpation, etc. Of Freund's operation he says: "Upon eight patients there have been three cures and five deaths." "Of total ablation of the uterus by the vagina," he reports eight cases, seven by himself and one by his assistant. Of these there was but one death, which occurred from internal hemorrhage. He then proceeds to give his method of performing the different operations, gives his estimate of each — and his conclusions from his own experience and the results others have obtained by the different methods are not very satisfactory. "The reason is in the rapid extension of cervical carcinoma (the most frequent) to the connective tissues of the pelvis and to the glands. The greater number," he says, "of uterine cancers are not yet susceptible of radical cure." Schrœder expresses the opinion that vaginal hysterectomy (total ablation) should have preference as it is better borne, but when the uterus is much increased in size he then believes it to be impracticable.

Martin, of Berlin, who has made these operations, has always encountered great difficulties. He expresses the opinion that the operation is contraindicated if the uterus is either very friable or has firm adhesions. Linkenfeld states that in all of the cases where Professor Freund has performed total ablation of the uterus the disease has returned either in "the cicatrix, the cellular tissues or the para-metric region." He thinks the return of the disease has been in consequence of not removing all of the diseased tissues and infiltrated glands. He also mentions that the distinguishing of healthy and diseased ganglion is impracticable. This author proposes a modification of the operation, by abandoning ligatures "*en masse*," to preceed ablation of the uterus by circular incision

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of the neck by the vagina, and make ligatures of vessels separately. For the excision of parametric tissue he "proceeds as in the axillary cavity, in case of cancer of the breast." This author hopes that prognosis can be bettered by rapidity of the operation and the modification just mentioned, to which he would add drainage.

In the *American Journal of Obstetrics* for January, 1882, is an article by Barnes and Garson, of London, on "Extirpation of the Uterus." These authors seem to give preference to vaginal hysterectomy and in writing of Freund's operation the following language is used: "If the operation is performed without wounding the rectum or bladder and the patient recovers from the immediate effect of the operation, the chances are in favor of a recurrence of the growth with fatal results." The paper concludes as follows: "Ricord divides operations into three classes. In the first class, he places those severe operations which he feels himself justified in undertaking. In the second class, he places those operations, which he himself will not perform, but at which nevertheless he will assist. In the third class, he places those operations which he himself will neither perform, assist at, nor witness." Adopting this classification would not the surgeon, whose spirit of enterprise is duly controlled by prudence, place this operation of Freund in the last category? It will be readily seen without further reference to writers or operations that the verdict of the profession at large regarding total extirpation of the uterus for malignant disease is yet to be rendered.

It would seem as if the fact, quite well known, that the most common form of uterine cancer (cervical) has been, and can be, frequently cured, without such a risk to life as the serious operations just considered, ought in some way to lead to the diagnosis of the disease in its earlier stages. The majority of cases are not diagnosed till far advanced, too late for a non-

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dangerous operation. This is in part due, without doubt, to the more frequent occurrence of uterine cancer among child-bearing women, who have had uniform good health, in whom there is no emaciation or departure in appearance from the usual standard of health, and to the long-taught but erroneous opinion that, even in the early stages of cancer, there is a peculiar lancinating pain. On the contrary, there is no cancerous cachexia until the disease is far advanced, and necessarily no pain (except in intra-uterine cancer and of the body), until neighboring tissues are involved.

Extirpation of the uterus for other than malignant disease has attracted considerable attention of late. The differential diagnosis of fibro-cystic tumors of the uterus and ovarian cysts, has not always being an easy task. Laparo-hysterectomy has been a number of times performed, when it was supposed that the operation would have been ovariotomy instead.

Uterine fibroids, whether interstitial or sub-peritoneal, rarely lead directly to a fatal result if uninterfered with; yet they sometimes do. The fact that, from mistaken diagnosis, the uterus has been removed and the patient recovered, has doubtless given courage to surgeons who would scarcely have dared at first to attempt the removal of the womb. So, in cases of interstitial and sub-peritoneal fibroids, where, from constant suffering through pressure, their removal with the uterus has been justified through fear of impending death.

In the last volume of "Transactions of the American Gynecological Society" is a full and very instructive paper, by Dr. C. D. Palmer, of Cincinnati, entitled "Laparotomy and Laparo-Hysterotomy; their Indications and Statistics for Fibroid Tumors of the Uterus." From the statistics here obtained, it would seem that the mortality for removal of the uterus for all causes is very high—as high as 75 to 80 per cent. "Well," adds this author, "may Bryant call it the gravest operation the surgeon can undertake." Dr. Palmer

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has a collection of one hundred and sixty-five operations of "Laparotomy and Hysterotomy," showing "eighty-four recoveries and eighty-one deaths, a mortality of 49 per cent."

This table, it will be understood, includes all operations for the partial and complete removal of the uterus, for interstitial, broad-based and fibrocystic tumors; also pedunculated tumors of the uterus requiring laparotomy.

The removal of the uterus for benign growths by abdominal section is such a serious operation, as stated by Bryant, that the cases are extremely rare which warrant its attempt. The surgeon who deliberately advocates it must, indeed, have a patient whose sufferings are very great, or else her life cannot otherwise be prolonged but a brief period.

The removal of the uterus is indicated only "when something must be done to relieve suffering and save life. When all other treatment is exhausted, it is a *dernier ressort.*"

The operation of laparotomy for the removal of pedunculated sub-peritoneal fibroids, or broad-stemed fibro-cystic tumors, without disturbing the uterus, shows, according to Schrœder, statistics of thirty-five cases—36 per cent. of recoveries. Dr. Palmer's collection of thirty-eight cases shows 58 per cent. of recoveries. Péan, of Paris, up to the time of Palmer's paper, had removed the uterus thirty-one times, with twenty recoveries and eleven deaths. Péan had performed laparotomy three times, with two recoveries and one death.

In the United States, Burnham has removed the uterus fourteen times, with three recoveries and eleven deaths. Kimball has removed the uterus thirteen times, with five recoveries and eight deaths; laporatomy but once, which recovered. Péan has had the largest experience in this operation of any other surgeon in the world, with wonderful success.

Burnham represents for the United States the largest number of operations, while Kimball, who has performed as many lacking one, shows 17 per cent. better statistics.

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While it cannot be expected that the operation of hysterectomy (hysterotomy of Péan, Palmer and many others), will ever equal that of ovariotomy in the percentage of recoveries, yet, doubtless, with all the improved methods and skill which are diminishing the number of deaths from the latter operation, the statistics of the next decade will present a diminished death rate.

Laparotomy *alone* is no longer the dreaded operation it once was. The opening into the abdominal cavity and exposure of the peritoneum to the air, which for a long time was thought to be so dangerous, is found of itself not to be such a serious affair. It is the operation which follows abdominal section that brings danger with it.

PORRO'S OPERATION.

Kindred to the class of operations we have been considering, and yet pertaining to operative obstetrics, is Porro's operation. This gentleman, after having performed the first steps of the ordinary Cæsarean operation and extracted the child, then proceeded to remove the uterus and the ovaries. The same operation was made by Dr. Storer, of Boston, for uncontrollable hemorrhage, without any knowledge of the operation of Porro.

Porro had for his object the prevention of hemorrhage from the incised uterus, and also the prevention of pregnancies in a patient, presumably with a pelvis sufficiently deformed to prevent delivery *per vias naturale.* This operation, which is now generally designated by the name of the gentleman of Pavia who devised it, has been the subject of a great deal of discussion by both obstetricians and gynecologists. The removal of a uterus for a hemorrhage which cannot otherwise be controlled may be warranted, but for the purpose of preventing a possible hemorrhage or even of preventing a possible pregnancy, is not, in my opinion, warrantable. I took this ground a few years

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ago in the report of a successful case of Cæsarean operation (about the time Porro's operation became known) and insisted that sutures for the incision of the uterus should always be inserted, that there might be neither hemorrhage nor an escape of lochia into the peritoneal cavity. To this opinion I still hold, for the mortality of Cæsarean sections, if made early, is not as large as the most favorable showing that has yet been published of Porro's operation. The many articles in periodicals, obstetrical and gynecological publications pertaining to this operation, which have doubtless been read by members of this society, cause me to refrain from a more extended reference to it, and I will conclude this portion of my report by merely adding, as a proper commentary on the seriousness of this operation, that, up to June, 1881, there had been made seventy-one Porro operations, with forty-one deaths, being a mortality of 58 per cent. I have been unable to procure statistics of reliability since the date above mentioned.

BATTEY'S OPERATION.

The removal of the healthy ovaries for various disorders, and known as Battey's operation, has been discussed of late years fully as much as any one operation within the whole domain of gynecological surgery. No one has spoken of it more modestly or carefully than the distinguished gentleman after whose name it has been, and will continue to be, called. So much has been written upon this operation, and so many cases have been reported, that but brief allusion will be made to it.

The removal of the ovaries for the purpese of affording relief from severe pain in certain forms of dysmenorrhœa, when all other modes of treatment had failed, seems in a number of instances to have proved successful. Here, by bringing on a premature cessation of the ovarian function, and thus relieving pain, was all that was at first claimed for this operation.

A good deal of interest has been attached to the importance

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of Battey's operation for the relief of uterine fibroids, the advocates of it claiming that thereby hemorrhage was first lessened, and the tumors lacking the periodical stimulus and flux of blood gradually disappeared. This theory has not fully met the expectations of the profession. There is not the decided change which takes place in uterine fibromata following the menopause. That atrophy of them takes place is probably true, but it is much slower. Hegar, who has performed this operation about fifty times, says there is gradual atrophy of the tumors after the operation. Battey himself says it is very marked, while others have not been able to see much, if any, benefit from the removal of the ovaries—not enough to warrant the risk of an operation.

As the ovaries are frequently dislocated, and many distressing symptoms ensue in consequence, we have here, certainly, a proper field for this operation. The class of dislocations where it seems particularly warrantable are those where an ovary becomes lodged in the pouch of Douglass, and, after proper treatment persists in remaining there, also in that rare form of displacement which is designated as a hernia.

In certain varieties of insanity, as hysterical mania and hystero-epilepsy, the removal of the ovaries are sometimes demanded. In truth, here lies the only hope of restoration to health in a limited number of cases. But, as the operation is by no means a simple one, and is often fatal when made by the most careful of operators, with every precaution and safeguard put in force, the surgeon should advise it only when all the ordinary and safer means of treatment have failed.

In conclusion, it is claimed by Battey himself that the operation is demanded in certain forms of ovarian dysmenorrhœa, and where the ovaries themselves are not diseased, as,

First—"In menstrual hystero neuroses, in the cerebral, pulmonary, gastric or other reflex symptoms associated with and dependent upon the monthly period of pelvic congestion."

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Second—"In dangerous hemorrhage, menorrhagia, or suffering caused by uterine tumors not suitable for removal."

Third—"By the absence of the uterus or vagina, or other malformations of the sexual organs when accompanied by distressing menstrual molimina."

DISCUSSION.

Discussed by Drs. E. Andrews and S. J. Jones, of Chicago.

Dr. E. Andrews—I am not engaged in the practice of gynecology, but there is a certain similarity in that treatment and in general surgery. I desire to corroborate the judgment of the reporter in some respects. Pure Listerism is not used either in this country or any other by the profession as a whole. During last year I visited New York and Philadelphia, and called upon a good many surgeons and ascertained the opinions of others, both surgeons and gynecologists. I could find only one of two persons of any prominence in Philadelphia, and about the same number in New York, that believed in Listerism pure and simple. Dr. Weir in New York is said to be an absolute Listerian. The rest of them have had their practice more or less modified by antiseptic principles, but refuse to adopt pure Listerism. I do not know the latest ideas of Professor Gross, who has resigned his position on account of age and ill health. Some two years ago he made fun of the whole procedure. Still antiseptic principles to some extent pervade nearly the whole profession in New York and Philadelphia, and indeed of the whole United States. I think of few prominent surgeons whose practice has not been modified more or less by the discussions upon this subject. Some maintain that Listerism is only valuable from the fact that it promotes scrupulous cleanliness, and I believe there is but little more in antiseptic principles than would be accurately expressed by the word clean.

I do not think this expresses the whole truth. Cleanliness in merely freedom from dirt, but "dirt" is a very generic word. As the old philosopher said, it means merely "matter out of place." Dirt may be merely soot, a mixture of pulverized carbon and certain antiseptics, such as creasote, etc., yielded by the fire, from which the soot sprung. Such dirt is itself a powerful antiseptic, and has in one form or another long been used in surgery. Again dirt may be alumina, in the form of clay, very often used now by eminent men as an antiseptic dressing for wounds and ulcers, and in the dry form as an antiseptic for disinfecting privies, etc. If a man gets clay upon his shirt bosom, that is dirt, but if he puts it on a wound or ulcer, then it is a scientific, antiseptic dressing, and not dirt at all, but all the same, it is only clay.

Science in this matter desires simply two things—the removal of a mechanical and chemical irritant and of septic living organisms, or what amounts to the same thing, matter in a state of putresence.

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Taking it all in all, I think we may say with the opinion of the report, that antiseptic principles are very extensively adopted, both by gynecologists, and, in one form or another, are heartily approved by the entire profession.

Dr. Jones.—There is one question of fact in the report to which we have listened, the reply of Lister to Keith's abandonment of Listerism. The report, if I understand it rightly, says that he was silent in regard to the matter. My understanding of the matter was that he did not claim that it was serviceable in overiotomy; but, on the contrary, the spray of carbolic acid might be and probably would be injurious. He did reply and said it was not beneficial in overiotomy.

Dr. Byrd said Lister said it was too much of an irritant. Dr. Byrd agreed with Dr. Andrews with regard to the importance of cleanliness. He had employed Listerism with bad results. Dr. Byrd also agreed with the report in regard to the treatment of ulceration of the cervix and ulceration of the perineum. It was better to apply iodine to the *os* occasionally. He used Dr. Jenk's method of preparing the perineum for the operation and thought it a decided improvement over the metalic method. The metal was corrosive. He found catgut good, using the chromatized and carbolized there is no difficulty whatever. In the abdominal cavity perhaps catgut has no advantage over silk. A patient died where the blood vessels were ligated with silk; the difficulty was imperfect drainage. Dr. Byrd was compelled to use drainage everywhere; he made incisions to get drainage.

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REPORT ON OPHTHALMOLOGY.

By A. E. Prince, M. D., Jacksonville.

Mr. President and Gentlemen:

I have prepared no systematic report on ophthalmology to be read on this occasion, but have selected for presentation here two conditions, concerning the first of which I claim no originality, but feel that its importance has not been sufficiently emphasized in such a manner as to bring it prominently before the general practitioner, and secondly, I desire to make a contribution to the management of a very obstinate and heretofore unsuccessfully treated condition of the eye, viz., *asthenopia-atonica.*

The operation of paracentesis is sufficiently common among specialists, but these, unfortunately, are the very men who see the cases when the damage to the drum has already been committed, and then the fact is realized that if a puncture had been made by the physician in attendance a life-long trouble might have been averted. By far the larger portion of the cases of acute purulent inflammation of the middle ear occur in the course of fevers, while the individual is under the direct attendance of the general practitioner. A definite realization of the signal benefit of a timely performed paracentesis of the drum membrane, when one considers the destructive tendency and the sometimes fatal termination of this condition if interference is not resorted to, must make every physician feel his responsibility in determining the question whether he will do what it is universally admitted will give the patient the

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greatest security and almost certainly avert the disastrous consequences of the extension of the pus in either one of the three directions—outwards, which is synonymous with perforation or destruction of the drum membrane, backward into the mastoid cells, or upwards, involving meningitis and causing death! It is undisputed that a portion of the fatal cases of scarletina and diphtheria are lost from this very cause. The inflammation passes up along the continuous mucous membrane from the pharyngeal to the tympanic region, and because the membrani-tympani is too strong and resisting to be demolished by the hydrostatic pressure of the accumulating serum or pus, it breaks the thin intervening wall between the tympanic and cranial cavities, and death is the result. When, fortunately or otherwise, the external is the weaker of the two walls, by its perforation or destruction the patient is left, either with total deafness or impaired hearing. In the former case the more frequently paracentesis is performed, the greater will be the reduction of the 20 per cent. of deaf-mutism due to this cause, and in the latter a host of individuals will be rescued from a life made miserable by inability to hear the conversation going on about them.

The first proposition which I desire to emphasize is, that the operation of puncturing the drum membrane with a sharp cutting instrument is unattended by danger either to life or the hearing, and that the wound heals in the vast majority of cases per primum, and in a few hours the point of incision is scarcely discoverable. Indeed, where it was desirable to maintain the opening in some cases of impermeability of the eustachian tube, the greatest difficulty has been to prevent the wound from healing and the opening from becoming closed, and this was the futile task of the aurist, for nature, in her efforts to close an opening in the drum, made for therapeutic purposes, has proved herself so powerful that its maintainance has practically been given up as a hopeless task. There was

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a time when it was the fashion to make this operation in all cases of deafness in which there was supposed to be obstruction of the eustachian tube, and at the time of Sir Astley Cooper no operation in surgery was more common, and yet a report of a case in which the operation has been attended by serious trouble is of the greatest rarity. The operation was then abandoned, not from any danger attending its performance, but from the fact that it proved to be inefficient in combatting the condition for which it was designed, but for the relief of the incomparable pain of an intense otalgia it will always be the sheet anchor of the aurist, for by it the agonies of a suffering child are instantly relieved, and the calamitous course of inflammation arrested. The sooner the public, medical and general, appreciates the importance and security of the operation and the simplicity of its performance, the better it will be for humanity.

The sphynx which has heretofore confronted the practitioner and prevented the general adoption of the operation, is the fear of doing violence to the ear by failing to make the puncture in the proper place, or of injuring some delicate organ within, and thus destroying the hearing entirely.

This morbid anticipation of danger is magnified by the usual description of the operation, to which is detailed the importance of a good light, a mirror, speculum, and appropriate instruments. The feeling that these are essential is enough to rob the operation of half its power to benefit mankind. In the first place the physician is not provided with the instruments; in the second place, if he had the instruments the patient is remote from the office, and the instruments are not at hand when the operation should be performed; and in the third place, the patient may be a crying, restless child, with perhaps a narrow or swollen meatus, and the conditions would be unfavorable for the use of light and specula if they were at hand. So that I say, with the belief that these are es-

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sential in performing the operation, it is in but a small minority of the cases that the physician could avail himself of its beneficent effects. We here need an Œdipus to assist us in solving the riddle, by presenting the relations of the four essential parts concerned in the mechanical execution of the operation.

This will enable us to see what parts are vulnerable and what are impregnable.

The four parts concerned are: 1st, the drum membrane with the manubrium reaching from above down to about its centre; 2d, the chorda-tympani nerve which skirts the tympanic cavity opposite the upper fifth of the membrana-pympani; 3d, the fenestra-ovalis, occupied by the base of the stapes, which lies so high in the tympanic cavity that if we conceive the external auditory-meatus to be continued directly inwards, it would be entirely below the location of this foramen; 4th, the fenestra-rotunda looking backwards and outwards, and lying behind the promontory, and so protected by it that if an instrument were to be passed into the middle ear, following the direction of the external meatus, its situation would protect it from the possibility of injury. It therefore appears that nature has so disposed the essential parts of the organ of hearing (as is amply illustrated in the general disposition of those structures which are most tender and delicate and liable to injury) that they are guarded from violence, and we see that the only two points where the internal ear is exposed are so situated that a knife may be unhesitatingly passed into the tympanum without danger of the evacuation of the liquids of the labyrinthine space. Should the point of the lance cut the tympanic membrane above the middle, the point might be arrested by the handle of the malleus, but that would only defeat the operation and no serious consequences would result. If the point should pass still higher, it might wound or sever the chorda-tympani, the consequence of which would be that the taste

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would be impaired for a few days until the nerve should reunite. The remainder of the internal wall of the tympanum is of dense osseous tissue covered by mucous membrane. Upon this the point of the knife can impinge without doing harm. Hence it follows that the operation is one in which the least knowledge is essential, and it is found that the results of no operation are more satisfactory. The only instrument required for the operation is the narrow-bladed tenotomy knife which finds a place in almost every pocket-case. Much ingenuity has been expended in the construction of concealed trocars, but I have found the most satisfactory instrument to be a narrow Graefe cataract knife, the cutting edge of which is kept from doing mischief by wrapping it with a thin strip of isinglass plaster from about a twelfth of an inch from the point. Thus an instrument is obtained that is so sharp that it will cut the membrane with the least possible amount of pain, and relief is instantly afforded.

I would not be understood as disparaging the performance of the operation in the most classical manner, under the best possible illumination, and at a point where the membrane is most prominent, but will consider my object accomplished if I make it understood that the object can be accomplished in a manner productive of equally good results, and at the same time compatible with the circumstances under which these cases occur.

The one law that I would lay down as a guide to the operation is, after determining the direction of the canal by the use of the probe, keep the handle of the knife high. The manubrium and chorda-tympani will thus be avoided, and the puncture will also be made most favorable to drainage.

With this commendation of the operation and attempt to make it available to the general practitioner, I will pass to my second topic.

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Asthenopia-atonica.

At the risk of being censured for employing this term, which I have not met in my perusal of the literature of the subject of asthenopia, I have come to the conclusion that no other term defines so accurately as this the condition which it is my pleasure to consider. The knowledge of the pathological condition of an eye subject to asthenopia must have been in a very chaotic state when the discrimination and scientific precision of Donders, operating like the miller's bolting-cloth, differentiates it into its different forms. To him we are indebted for the recognition of the different errors of refraction as the cause of most cases of asthenopia, and for assigning the cases of this condition to different classes, grouping one set as accommodative and another as muscular, dividing the accommodative again into hypermetropic, myopic, and astigmatic asthenopia, according to the optical defect which caused the eye to operate under abnormal relations, giving rise to premature fatigue. In like manner the class of muscular asthenopia would naturally be divided, inasmuch as one or another of the recti muscles or the oblique were the source from which the defect in harmony of action of the associate muscles arose. But after we have considered all these various forms of asthenopias, we still have a condition of weakness which is not covered by any of the above conditions, and the treatment of which has proved most difficult and unsatisfactory, principally because there seemed to be no tangible cause, the correction of which would remove the asthenopic symptoms. In these cases, there being no error of refraction of muscular insufficiency, we must look on them as due to inefficiency of one or more of the parts of the eye to do the normal amount of work. The condition has been called ciliary exhaustion, for it is under accommodation that they fail, and this is not a particularly objectionable title except in so far as it expresses only part of the exhausted conditions. By another author it has been called

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retinal asthenopia, and by still others congestive asthenopia, while I, because all the structures of the eye are liable to be below their normal degree of activity, have chosen the name of *atonic asthenopia* as being more general and more accurately defining the condition.

We find this condition in individuals who have used their eyes to an inordinate degree, and who, after the eyes have begun to be wearied, and have given evidence of the fact by causing the individual to suffer more or less with symptoms of pain, or uneasiness, or itching, or heat, or a sensation of roughness due to conjunctival congestion, have not heeded this warning of nature that the limits of the power of the eye have been reached, and have put the eyes to continued use in this unnatural and congested condition. Zealous students, who think they are obliged to work all day and at night besides, are not infrequently subject to this condition. They use their eyes as they would ride a mule: and as it is said that when this animal is once broken down he seldom recovers, the simile holds good as regards the eye, for there is nothing more persistent than the weakness of an eye abused and exhausted iu this way. Since I may be said to be relating a history of my own personal experience, which led to such ideas as I have on the subject, my observations have at least the advantage of having extended over a course of years, and of having been subjected to the influence of contact with various authorities whom I consulted concerning my own condition.

Another fertile source of origin of these troubles is the prolonged use of the eyes at needle work, after they have reached their limit of endurance. The temptation to finish some piece of embroidery although the eyes are painful, causes a number of these cases to come under my observation every year. An individual whose eyes are already weak becomes absorbed in a fascinating novel, and does not heed the warnings of nature to lay it aside until they are rested, but continues on, chapter

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after chapter, and at last pays the penalty by not being able to read more than a few minutes at a time by daylight, and perhaps not at all by gaslight.

This will be sufficient to make clear the class of cases to which I refer, and in the memory of any physician, who has much to do with diseased eyes, there will be no dearth of cases in which he has been unable to find any marked error of refraction, and which have the symptoms of asthenopia. Clonic accommodation, so to speak, is not defective, but the failure lies in the power of endurance.

Taking pattern after the treatment of an inflamed joint, the eye has been put at rest for a prolonged period of time by the repeated instillation of atropia. In some of the cases this has worked well, but it is by no means satisfactory. Every one knows of the method of ciliary gymnastics which was proposed by Dr. Dyer of Pittsburg, and which consists of periodic exercises in reading, increasing from one to five minutes each day, until the person is enabled to read a sufficient length of time to discharge his duties. But the length of time over which such a treatment must extend, and the impossibility of controlling the cases during this tedious course of ocular exercises, combined with the fact that it is but a limited portion of the cases in which the treatment is fairly carried out, furnish the most favorable relations when so few entirely recover as to be able to use their eyes to an unlimited degree, and cause us to welcome any process which will attain results both speedy and permanent, and liberate the individual from this condition of loss of command over his eyes, *What we want in these cases is to enable the individual to work, without demanding of him the full amount of tension which is required of the normal eye.* In other words we desire to keep the eye at work, while at the same time its muscular structures are exerting but fifty per cent. of the tension required of the normal eye for the same labor. The same principle is here employed as when

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we encourage moderate, while we discourage severe exercise in the case of other weakened muscles.

Let us see how this can be accomplished. For the normal eye in reading at fifteen inches distance, the tension is equal to 2½ units of accommodation. If a glass of thirty inches focus, (1.25 units) be placed before the eyes while the individual is reading at the distance of fifteen inches, the *ciliary muscle* will be rested just fifty per cent., but such a glass is found to be uncomfortable and will not be tolerated at all, and in the relief of this discomfort we must look for the solution of our problem. From the time a child learns to look till the age of forty or forty-five, when the hardening of the crystaline lense has begun to disturb the relations existing between the recti and ciliary muscles, an equivalent amount of force is expended by both these muscles in all efforts of vision at whatever distance. When an individual looks at an object at the distance of a metre (39.37 inches), the ciliary muscle is obliged to accommodate to a definite degree, in order to focus the image of that object on the retina, and the power required is assumed as the unit by international common consent among all oculists. This unit has received the name "Dioptric." Now when the eyes are directed to an object at a distance of one metre, hence, under an accommodation of one D. (Dioptric), the optical axis are converged by an associated action of the internal recti muscles by an equivalent force which is expressed in degrees, and for each degree and fraction of a degree of accommodation, there is an equivalent force expended in the convergence of the optical axis, to produce bi-nocular vision for that point. This is what may be termed the law of recto-ciliary relationship, and when we place before the normal eye a convex glass of one degree, we violate that law just three degrees, and it will require a prism of thirty, with its base inwards, in connection with that glass of plus one degree to preserve that law of recto-ciliary relationship. With such a glass as this, any normal eye will

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be able to see with absolute comfort. An object at the distance of a metre, with all the muscles of the eye at rest; at the distance of half a metre, with fifty per cent. of rest; at one-third of a metre with thirty-three and one-third per cent. of rest, and so on.

Now this is just what I recommend in all cases of *atonic-asthenopia*, due to whatever cause, and having been myself relieved by such a combination, after having followed in vain the advice of some of our best oculists, and having the records of nearly a hundred similar cases, but four of which were not benefited by prismatic combinations, I take pleasure in recommending them to any of the profession who may see fit to give them a trial. The combination which I most frequently use is plus $1\frac{25}{100}$ degrees, (equal plus $\frac{1}{30}$) combined with a prism of four degrees with its base inwards, and this glass I have ground by A. S. Aloe, of St. Louis, who grinds a dozen pair at a time for a sum proportionately much less than a single pair would cost. In this way the expense is reduced to a minimum, which is within the bounds of every one. In the prescription of these glasses there is one difficulty, which unless borne in mind, will be liable to give rise to trouble, and that arises from the defective setting of the glass. If the axis of the prism is not perfectly perpendicular, there will be a vertical prismatic action, than which nothing is more fatiguing to the eye. This defect can be very easily detected by holding the glasses eighteen inches before the eyes and directing them to some remote object, which will of course appear double, when if the glass is correct the two images will appear in a horizontal plane. If there is half a degree of vertical prismatic action, it will be detected by one image appearing higher or lower than the other. A slight defect can easily be corrected by rotating the glasses in the frames. Dr. Brudenell Carter, of St. George's Hospital, London, speaks of these glasses in his book "Defects of Vision," and some years ago recommended

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them in cases of presbiopia, but as that is the very condition in which they are not appropriate, as will be readily conceived, he has abandoned them on both theoretical and practical grounds, and does not seem to have realized their importance in the class of cases in question.

Dr. Sheffler, in his work "Die Theorie der Augenpfehler und der Brille," recommends them as a substitute for common spherical lenses. Such other works on the eye as I have access to, give the subject no consideration.

The following combination satisfying the recto-ciliary relationship may be of use, from which I take in practice thirty degrees, as in the majority of cases of asthenopia, there is a tendency to hypermetropia.

DIOPTRICS.	DEGREES.
Plus 0.5 D.	1°.30′
Plus 1.	3°
Plus 1.25 D.	4°.30′
Plus 1.75 D.	6°
Plus 2. D.	7.30″
Plus 2.5 D.	9°

In many cases of asthenopia not relieved by correcting hypermetropia and astigmatism, I have a reading glass made with such a satisfactory combination added to the glasses, which correct the error of the individual case, and such glasses have done well in every case.

I regret that time will not permit me to append a series of illustrative cases which I shall do, in some reprints to be at the disposal of the profession.

Discussed by Dr. J. P. Johnson, of Peoria.

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REPORT ON MEDICAL LEGISLATION.

By M. A. McClelland, M. D., Knoxville.

The experience of the Board of Censors of the Medical Society of the County of New York, emphasizes one or two propositions enunciated in my report on the Legal Regulation of the Practice of Medicine, made at the Chicago meeting, of this Society, last year. Prominently, that laws made for the protection of the ignorant from charlatanism, will for a long time be rendered nugatory, by the indifference and hostility of the people, especially that shown by the courts and those whose duty it should be to prosecute offenders. The board having presented the name of a person who had falsely registered as having graduated at Breslau, to the grand jury, the foreman of which was the editor of the *Army and Navy Gazette*, that body declined to indict the offender, and stated that "it (the jury) could not see any reason why any man irrespective of qualifications, should be restricted in the practice of medicine, provided he was not an abortionist." (Dr. Sturgis, Med. Gazette, August 13, 1881). It may be, that in this instance, the jury was governed by the opinion of the "learned" district attorney, that false swearing for the purpose of registration in the State of New York, "is not perjury, in the strict sense of the term, and cannot be punished as such according to the provisions of the law of 1880." In other words, a "person can register without a diploma and yet escape conviction of the charge of perjury." (Med. Record, October 29, 1880). In the case of one Kraft, registered as coming from the Electro-Theraputic Institute of Philadelphia, 1868, the Court refused

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to hold him because the accused "swore he cured by magnetism and electricity, and this the learned Court held was not practicing medicine or surgery within the meaning of the statute." This is discouraging, and it may seem needless to dwell upon it, but knowing the difficulties we may be more successful in combating them.

If legislators knew what the profession desires, and was actuated by a wish to best serve their constituency, this disgraceful condition would be short-lived, as it is it should only serve to stimulate individual members of the profession to discuss the matter on every suitable occasion, to the end that a healthy public sentiment will, sooner or later, demand that the ignorant in medicine, as the ignorant in other affairs of life, shall be protected from their own folly. Our medical utopia is in the future yet, but there has been an advance in its direction since 1760.

It is a very grave question whether the laws now in force are of any great utility. What statutes we have are associated with burthens upon the law-abiding portion of the profession, and were passed under the mistaken views that great favors were being conferred upon the profession. The legitimate members of the profession need no protection from charlatanry, and seek none, but they do object to bearing burthens not borne by other of their fellow citizens. As collectors of vital statistics, they have given their time and money, for the most part willingly in the hope that further, wiser, and more equitable legislation would follow.

The history of medical legislation runs parallel with the history of society. In 1140, Roger, king of Sicily, required that all who practiced medicine within his dominions, should present themselves before constituted authorities, for permission to do so, the penalty for failing to obey, was confiscation of all the property of the culprit, with imprisonment. To this he was driven by his kingdom being over-run by a horde

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of ignorant monks, who seeking their own worldly gain invaded his territories. These enactments were continued in force, and others bearing upon the proper course of study for those contemplating following the practice of medicine, were promulgated by Frederick II., grandson of the king.

To come down to more modern times, the status of medicine in our own early colonial period was very low. Pettifoggers, sharpers, broken down adventurers of all sorts chose the profession which, in a rude state of society, gave them the best opportunity of fleecing the community. In Virginia and North Carolina the profession was particularly in a degraded condition. In 1657, laws were passed regulating the practice of surgery. Courts were empowered to settle fees. A few years later the bills of physicians against the estate of decedents were partly recognized as being just. The statutes fixed one shilling a mile as a legal tender, medicines extra, to be set forth in detail in the bill. Two pounds for a common fracture and twice as much for a compound one. Physicians holding a university degree allowed to make a double charge. This has all been changed. The charlatan now makes the double charge and collects his fee in advance. The profession then had neither social nor political influence. It now has both, and should make use of it in advancing the equitable rights of its individual members as well as fostering those measures that look only to the public health. So long as we give our time to the latter and neglect the former, just so long will we be suspected of having some ulterior design, and much of our effort for the public good will be thrown away.

What was true in regard to the medical profession in the southern colonies was not true as it relates to the profession in the middle and northern ones. In Pennsylvania, for instance, we find some very notable men pursuing medicine as a profession, and not as a trade. Two physicians of good reputation came out with Penn, and from that time on the profession

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exerted a salutory influence upon such legislation as was deemed necessary. The same may also be truly said of New Jersey, where as early as 1766, a medical society was founded. Physicians before beginning practice were required to pass an examination at the hands of established practitioners and before the Court, receiving, if successful, a certificate signed by the Judge. The character of the profession rose rather than fell, under the requirements of such examination.

None of the northern colonies were more polluted with quacks and quackery than New York. In no colony or state has there been a more determined effort made to regulate the practice of medicine. As early as 1665, an attempt was made by a clause in what was known as the Duke's laws of that year. This related to the prevention of violence on the part of doctors toward patients. In 1760 the assembly passed an act to prevent bad physicians, and ordered that no one should practice without a certificate from three members of the council and the Supreme Court. Seven years later a medical school was founded in connection with the college, and two years after that a medical society was established.

New England was fortunate in that her physicians, during the early colonial period, were learned men, possessed of more or less special training, although they were frequently more deeply trained in theology than in medicine. The healing art was more likely to be followed by beneficial results than when it was practiced by broken down adventurers and convicts. The introduction of inoculation into New England, like vaccination at the present time, had arrayed against it all the ignorance in the land. The greatest champion of the cause of preventive medicine, was Cotton Mather. "His enlightened advocacy of inoculation called out the bitterest attacks." Inoculation was opposed on both religious and economical grounds, it "anticipated the action of the Almighty and was very expensive." Vaccination is opposed at the present time for

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precisely the same reasons. God's ways are being circumvented and the doctors are getting rich. To the intelligent generally, this is absurd, both in its first and second clause, yet prejudice readily over-rides intelligence, as an instance see the furious attack on the doctors and vaccination, in the February number of the *North American Review*. In the colonial period the "barbarous and bloody" people of New England were such friends of the old fashioned small pox that they attempted the life of Mather by throwing into his bedroom a hand grenade.

Paternalism in legislation, when relating to the health and lives of citizens is altogether right, however much it may conflict with the genius of our republican form of government, and should not be restricted alone to the regulation of the practice and practitioners of medicine. That legislation, as with medicine, is the best which prevents disease. In large cities, sewer gas, water supply, ventilation, etc., have much to do in the causation of diseases, and defects in these respects are properly to be charged to the incompetency and ignorance of workmen, especially of those whose duty it is to construct and arrange the system of pipes that carry off the waste water and excreta of such places. Especially, then, laws should be enacted requiring the plumbers of the state to register with, at least the municipal boards of health, so that tinners, masons and other mechanics, other than practical plumbers shall not undertake to do this important work. A letter was addressed to the health officer of Chicago, asking for information in respect to the municipal laws now in force, bearing upon some of these questions. No answer has been received, but from what I can learn, that, whereas, there are skilled inspectors sent from the health office to inspect and report upon the sanitary condition of *tenement* houses, no such inspector is to be found who, with the approval and the authority of the health office, is obliged to make such inspections of private houses. Private owners

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would be quite glad and willing to pay a fee to such inspectors, for, knowing nothing of the sanitary plumbings of a house, they are left at the mercy of the workmen whom they may call in, having no guide to go by as to who is and who is not competent to do such work. Therefore they are apt to call in the nearest person who may announce himself as competent in the business. Physicians are frequently selected in the same manner. By having a record of the men who have been declared skillful, either by the Board of Health or by the trade itself, to do this sort of work, suitable men may be employed. Many incompetent men may be registered at first, but as experience is had, only those reasonably competent will be likely to obtain registration. Power should be given the Board of Health, or other Board to suspend those who may be convicted of doing bad work. Persons thus suspended would have to offer, subsequently, proof of having qualified themselves, besides, why should they not be held in damages for malpractice as are physicians and lawyers. Obligatory registration would undoubtedly raise the standard of qualification. Capable men, those who desired to do honest work, would be encouraged, at the same time restraint would be applied to the ignorant and those disposed to do wrongly. There is no reason why this class should not come under legal regulation as well as physicians and druggists. The law should extend to the manufacturers and dealers in iron and lead pipes, used for sewerage and other sanitary purposes. "If a four-inch pipe one-eighth of an inch thick should weigh thirteen pound to the foot, it will yet not meet the requirements of safety, if the weight is put on by extra metal on the hubs, or if the pipe is half an inch thick in some places and thin as a knife blade at others, why should not molders also be required by law to do their work well." Bad work has, and will continue to be done under stringent specifications, backed by all the penalties specially pertaining to them contained in the common law,

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but restrictions of a specific character will result in good, and we will find no class giving more earnest support to such a law than the competent artizans themselves. A sanitary engineer, unconnected with any plumbing or plumbing-material establishment, added to the State Board of Health, as proposed in New Hampshire, would be a move in the right direction. He certainly would be a more appropriate officer than some that are now found on such boards.

It may be that "that government is best that governs the least;" but certainly, where the life and health of such a commonwealth as that of Illinois are at issue too much, as yet, has not been done. It seems to me that we who know the most about the prevention of disease, who are best qualified to advise in respect to medical legislation, through a mistaken notion of propriety have thus far failed to educate a healthy public sentiment, in respect to these matters. Who reads our state, county or district transactions, or our medical journals? No one but physicians. It is true that for the most part the papers appearing in such publications are technical and of no particular interest to the general public, but there are many, and many more might be prepared that would be suitable, interesting and of far reaching influence in molding public opinion, and if we, and we might do it without violating the code or "descending to the ways of quackery," would more frequently avail ourselves of the agency of the village paper, much good of a permanent character would result both to ourselves and the public. Our legislative bodies for the most part, are made up of men quite ignorant on these matters, where, for the want of a little knowledge they oppose the enactment of laws intended for the ultimate welfare of the public. Since formulating the above sentiments there has come into my hands a copy of the *Medical News* from an editorial on "The public influence of medical profession." I desire to read an extract as a conclusion to my report:

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"Not as theorists in speculations as to the influence of germs or malaria, not as Don Quixotes riding at every municipal windmill, but as thoroughly practical men with the burden of the public weal upon our shoulders, surrounded with evil habits, evil traditions, evil modes of life which it is our duty to better, let us speak, and speak loudly, and speak until we are heard.

Until some such public expression is given to the united opinion of the profession, we can do but little towards improving the public health and destroying the crying evils that exist on every hand. Not till then shall we do our duty as medical men to the public that will hear us if we will but make ourselves heard."

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MEDICAL EDUCATION AND MEDICAL LEGISLATION.

By David S. Booth, M. D., Sparta.

"By knowledge we learn ourselves to know;
And what to man and what to God we owe."—*Spencer.*

Mr. President and Gentlemen:

My name was attached to the Committee "On Medical Legislation" at your last meeting. Being in part held responsible for the present Illinois Medical Practice Act, and furthermore, being desirous of seeing the medical profession elevated to the highest standard possible, I present to you a few desultory thoughts, looking to the defense of the good in the one and for the advancement of the other.

The only good reason that true physicians can have for assailing the practice act, is, that it is not all that he desires, while the *quacks* and *unprincipled pretenders* condemn it, because it is not that which they lusted after; that is, they feel the lash, lightly now, but in the near future, I hope will feel it severely.

As a foundation for this hastily written paper, I shall propound a series of questions, and then attempt to answer them, not always in their regular order however. And I shall also reserve the right to wander into any path, to illustrate or strengthen my position.

1st. Who can best judge of the qualifications of a physician; those in or out of the profession?

2d. Who should control the practice of medicine; the college, the citizen or the state?

3d. Which of the three is the most likely to decide impartially?

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4th. Is there any legal responsibility assumed or implied by the state; or, do the courts take cognizance of the physician's failures to his patient?

5th. Should the unqualified medical man be estopped from practicing medicine; or, should he have a carte blanche to "seek whom he may devour?"

If the citizen is as well qualified to judge of the medical attainments of the medical man, as the qualified physician of what use is it, for the professors to examine a student in the different branches taught in a medical college? Certainly a layman is as well qualified to make the examination before as after graduation. We really have no fixed standard of medical attainments in the United States, but every college makes its own standard; cheap colleges and short sessions are generally understood to mean, easy graduation.

And in reality the only value that I attach to a diploma, (I am pleased to be able to say that there are a few honorable exceptions), from our first-class colleges, is, that the medical student has had an opportunity to lay the foundation for a physician's education. The man himself, must erect the superstructure afterwards by close study and observation; the first from authors, the latter at the bed side. Nothing less than this will make the true physician.

A unity of opinion, I believe, exists among physicians as to who is best qualified to judge of the medical man's attainments. But unfortunately the people claim that they are as well qualified as the profession; if not by words, they do so more emphatically, by employing any charlatan that may offer his services to them. It is an old and trite axiom, "that a fool and his money are soon parted," and it frequently proves too true to the poor sufferer.

> "She taught the child to read, and taught so well,
> That she herself, by teaching, learn'd to spell."—*Shake.*

It is indeed strange that the people should oppose any meas-

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ure looking to their protection. Their lives and limbs, and of those depending upon them, do not give them as much concern as their property. They will frequently take, and also prescribe any drug, no matter how potent, as fearlessly as they would a draught of water.

They will occasionally condescend to ask a medical man's opinion of the fitness of a drug in the particular case for which it is intended, but they give him to understand that they are thoroughly acquainted with its therapeutical action. Oh, how blissful is true and unadulterated ignorance!

They will go to the apothecary and ask for a proprietary or patent medicine, and use it, and that too, without knowing the true character of the disease that it is intended for, and also without knowing of what it is compounded, or the action of the drugs that it is said to contain.

This presumptuous ignorance is only exceeded by the sang-froid with which they receive the opinion of the medical man, as to the action and indications of a patent medicine that they are using, when he, the physician, informs them that he knows nothing of its action, because he does not know of what it is compounded; or the nature of the patient's disease, to whom they are giving it. But suppose the interrogated physician is acquainted with the patient's case, and also acquainted with the formula (through the exposure of some chemist, in a medical journal), and the physician informs his interrogator that the preparation alluded to, is contraindicated, inert, or that it contains a very poisonous drug; then the questioner in a nonchalant manner, will thank the physician by replying, "that of course a doctor will not recommend a patent medicine," and the citizen goes away, apparently better satisfied of its valuable properties than before.

And should it occur, that your services are required in this self same case, and you inform them that valuable time has been lost by the delay in administering the proper treatment,

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or that the medicine given had actually injured the patient, then the sensitive and conscientious physician is likely to be insulted.

In matters pertaining to their property, you will find the people ever on the alert, for when this is in peril, they take great pains to inquire and employ the best legal ability to be gotten, and frequently at a cost above the value of the property in litigation, for the simple reason that they do not want to be beaten.

How often, gentlemen, have you seen a qualified physician discharged, and in his place one of those would-be-doctors employed, with nothing in his favor but impudence? Then again, you no doubt have seen the instructions and treatment of the skilled physician laid aside, and the traditions or whims of some meddlesome person substituted, and that frequently to the irreparable injury of the patient.

I have seen *cow manure poultice* applied to the entire lower extremity of a lady for the cure of phlegmonous erysipelas; and the cure was permanent so far as this world's troubles were concerned, as the lady did not long survive the filthy medication. I have known a simple comedone upon the face of a young lady, converted into a deep ulcer by sloughing of the soft parts, that upon healing, left an ugly cicatrix of internodular tisue, which defaces the young lady very much; all brought about by the officious advice of an old lady, who advised a poultice of quick lime.

And as strange as it may appear, only a few months after the occurrence of the case last mentioned, a brother of the young lady contracted a catarrhal ophthalmia of one eye, and in memory of his sister's case, he was counseled by his physician against meddlesome wiseacres, but he was hounded by them, until he applied a poultice to his eye, under the promise of a speedy and certain cure, the result of which was a transformation into a purulent ophthalmia, with hypertrophied

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pappilla of the lids soon to follow, and an extention of the lesion to the other eye; and to-day, he is in St. Louis under the treatment of an oculist.

Many families possess some work upon (or rather misnamed), domestic medicine, and it is often quite amusing to see the assumed importance of their owners in all things medical. They will even attempt to discourse learnedly with the physician upon the nature of the patient's disease, and as to the treatment of the case, and judging from their vehement disputations, they leave the impression that they believe themselves better qualified to combat the disease than the physician.

They are like the ignorant doctor, everything is certainty until death comes, for they do not know or recognize defeat, and when death does come to relieve the poor sufferer, they exclaim that it is the fiat of God, or that the patient's time had come.

Such illustrations might be extended *ad infinitum* by medical men, but I believe these sufficient to serve as proof that the people are not qualified to either practice medicine, or to judge of the qualifications of those offering themselve as physicians.

It is claimed by some that we have no right to pass any law restraining or forbidding any person from pursuing any calling, vocation, trade or professsion that he may desire to follow; and they furthermore claim, that we have no right to prevent any person from employing whomsoever he may, as he is the sufferer in mistaken judgment as to who are qualified to serve him. That is, to prevent any one from practicing medicine, or employing any one in said capacity, is an abridgement of the liberties of all parties. If this were true, then we would not have the right to pass any law restraining anyone from doing injuiry to themselves or others. To admit this in theory and practice as part of every one's rights, then all suits for malpractice should be forbidden.

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For it is a well-known fact, that the candid opinion of a medical man, that a certain party is not qualified to practice medicine, rarely has any influence in preventing the employment of the pretender. This being so, is it right, that he should be held responsible for his blunder?

People claim not only the right to employ any person whom they wish, but they claim the same right for those subject to them, and this emperils innocent parties. Another argument that they use in justification for employing those that they know to be uneducated, untrained and not furnished for the work in hand, is, that he is a good conscientious fellow, and will not give or do anything that will do any harm, if he does no good. I claim that if a man calling himself a physician, or attempting to play the part of a physician, is not qualified to do his whole duty in the treatment of a patient, that he is forced to do harm by reason of the failure or delay in the application of the proper treatment, he is as criminal, and should be so held as the man knowing his duty and failing to perform it, or as the man that maliciously does direct injury. You will occasionally hear the drones or superficial medical men say, that all that they desire to know of their profession is the *cream*, and judging by the conversation and treatment, this means malaria and a few stereotyped drugs, the first, last and all the time of which is quinine. And this, gentlemen, plays an important part in strengthening the people in their opinions upon medical matters, for they will frequently twit you with the short-comings of the profession, and are never better pleased than when they can place you *hors du combat.*

That this paper shall not reach a length to tire your patience, I shall give only a few illustrations going to show, that the colleges do not do their duty in dispensing diplomas, and that a diploma is not an evidence of qualification at all times. And furthermore, that people are deceived by them, believing that they show equal qualifications in all that are so fortunate

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as to possess them. Have you never noticed the timorous student before graduation, so ignorant in his own estimation, but suddenly transformed into a man of great knowledge and wisdom, upon hearing that he had received votes enough to elect him an M. D.? Nearly six thousand M. D's. were ground out this spring, and with the people so many actual doctors, the only difference being a little experience in their estimation. The people will employ them, of course they will. And who are to blame, the *diploma mills* or the people?

Two physicians, both graduates, had been treating a child for cholera-infantum for several weeks, and at their last visit, they pronounced the child out of all danger, and on the road to speedy recovery, although their attention had been called to a peculiar eruption or "breaking out," (as named by the parents) this, these medical gentlemen pronounced of no import, and left for their homes.

The same day another physician was called to see the little patient, and after an examination, he pronounced the so-called eruption, purpura, an epiphenomenon, giving evidence of near dissolution, and that hemorrhage from some of the mucous surfaces would almost certainly precede death. The hemorrhage did appear, and the child died. The final result in this case might not have been averted by even an early discovery of the purpura, but by those acquainted with its clinical value in such cases, a very guarded opinion would have been given as to the termination.

The next case was in the hands of three physicians, two graduates, the other, a man of large experience, but without a diploma. They diagnosed and treated the case for hepatitis for two or three weeks, when the fourth physician was called in, and he diagnosed it *prostatic abscess*, and suggested free incision. The last physician was unceremoniously dismissed by the patient himself, and told to go home, which he did, but was again called back the following day, when a free opening

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was made with great relief to the patient. It was estimated that not less than four ounces of a very offensive sanies was discharged at the first puncture, and it continued to discharge for several days. The man's recovery commenced from the first ablation, and continued uninterruptedly until a perfect cure was speedily reached.

One of the physicians in this case is hardly to be excused for this oversight, as he had had unusual opportunities to learn and understand his profession. He had been the private pupil of a very distinguished surgeon, graduated from a good medical school, and then entered a large hospital as a resident physician, where he remained for two years. But gentlemen, the trouble in his case was, that he ceased to study after commencing the practice of medicine, thus failing to add anything to his store-house of medical knowledge, and that which he formerly had acquired, soon left him. Some men, like the *parrot* or *monkey*, pick up by imitation, and so far as they have had the opportunity to see, can perform, while others become wrapt up in the solitude of their own meanderings and forget everything. And the prime motive of this paper is to arouse all, that we shall know of a truth who are thoroughly qualified to practice the healing art. As an illustration of the indifference manifested (put mildly) by this gentleman, upon returning to his old home he sold off his medical works, and so far as I can discover, has never purchased a medical work since. Now if this young man had known that he would have been compelled to pass an examination in his profession at the end of five years he would have pursued a different course, and the above case would not have been recorded against him, or else he would have left the profession.

The next and last case in illustration of the kind of doctors the diploma mills of this country are grinding out, is that of the most consummate fraud that it has been my misfortune to meet, and yet he holds a diploma from a college, that at this

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time is in good repute, and has taken an advanced stand in medical education.

His every word in ordinary conversation brands him as illiterate in a high degree.

I shall only give you one case in illustration of this man's ignorance, and the dreadful curse that his Alma Mater was pleased to inflict upon the people, for the sake of the almighty dollar.

This man maltreated two cases of milk leg, (phlegmasia alba doleus puerperarum), for several weeks, in fact within three or four days of death, calling it phlegmonous erysipelas. This is a disease, milk leg, that nine out of ten of the old women in the land could name on sight, and when the women expressed doubt about its being erysipelas, he informed them that he had a similar case in the same neighborhood. A few days before the death of one of these cases (they both died), another physician was called in, who instantly upon seeing the disease, pronounced it milk leg.

It is passingly strange that ignorance, impudence, insolence and want of principle, usually reside in the same individual, and the rule holds good in this pseudo-doctor. Why is it, that the medical colleges of our country do not recognize and act for the good of suffering humanity? Are they so lost to honor that the filthy lucre of the candidate for a diploma is of greater value than the lives and limbs of their fellow man? Such cases as the above figure largely in molding public opinion to the injury of the medical profession, from the fact that a diploma means equality in medical knowledge and skill, and a difference of opinion in all matters medical, is a positive evidence to the public of the chimerical or uncertain condition of the science and art of medicine. While medicine is not an exact science, yet it has as fixed principles to govern in practice as any of the sciences. We cannot prevent decay in the natural wear and tear of the body incident to the increase of age; and

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when this machinery is worn out, we cannot prevent death. When an injury destroys the integrity of a vital organ of the first importance, we cannot make and adjust a substitute to fulfill its functions. Neither can we, in penetrating injuries, such as are made by projectiles, name the exact and minute parts involved, or at all times locate the missile, or give a positive answer as to the particular organ whose integrity has been assailed.

Neither can we do that which Voltaire says is expected of the physician, which with many people is a true definition of a physician, theoretically and practically, judging by their exactions; namely, "A physician is an unfortunate gentleman, expected every day to perform a miracle; namely, to reconcile health with intemperance."

None have the legal right to sell or give a poison to any person suspected of criminal intent, either upon himself or others. But the law does not stop even here. For the prevention of injury to the innocent by mistake or otherwise, the law compels in some places peculiar shaped bottles or labels, made so striking, that the very sight of either, strikes terror in the beholder. New York, at this time in addition to all this, is trying to enact a law compelling the name of the antidote to be placed upon the bottle, or if the drug is without an antidote, to so declare it. Says a writer in *The Popular Science Monthly* for April, 1881, page 770: "So jealously does the law guard the lives and persons of the people, that every time the physician writes a prescription, or a surgeon makes an incision, he takes his purse, his liberty, or perhaps his life in his hands.

"The risk is not all on the part of the patient, despite a popular impression that the only pocket book likely to be depleted, or the only life liable to be sacrificed, is that of the sick man.

"In undertaking the care of a patient the physician enters into legal relations with him and becomes a party to a contract, which, although not expressly set forth in writing, is yet in

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the eye of the law, fixed and certain, and one which subjects him, in case of a breach on his part, to legal liabilities.

"He engages that he possesses that reasonable degree of learning, skill, and experience which is ordinarily possessed by the professor of the same art or science.

"If he has skill, and neglects to employ it, he is liable in damages; if he has not skill, he is equally liable."

Would it not be a good plan to hold the colleges liable in damages for their graduates, instead of those that they have authorized to practice medicine? Before graduation, but very few believe themselves truly qualified, but after the colleges declare them doctors, they cannot successfully deny it, if they wished to.

The law governing or controlling the practice of medicine is not as exacting as it is in many instances where property alone is at risk. Why pass laws regulating or restraining business transactions, commerce, or the pursuit of any trade, business or profession, *e. g.*, the pilot, the engineer, the school teacher, etc., etc.? Why compel a vessel to be examined before leaving port, as to her seaworthy qualities, her machinery, vital capacity, comfort, etc., etc., and then compel the same ship to employ a special pilot to guide the vessel out of port, over the bar and into deep water? Safety, you reply. Then why not provide the same safety for those making the voyage of life over the bar of disease, placing buoys or marks upon those qualified to stear the vessel clear of the ills of life, to the best advantage known?

The law requires that each and every act relating to the ship in its different parts, shall be performed by a person known to be fully qualified for the work in hand, mentally, morally and physically.

Berg with his "humane society" is trying to protect the lower order of animals from cruelty. Shall we as humanitarians be prevented from protecting the highest order of animals,—

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man? In our field of operations, the cry is raised by the whole horde of unworthies, and re-echoed along the line until the people take it in as a sweet morsel, and they will continue to do so until the brand of Cain is set firmly upon the unqualified. Who among you would suppress one screach, or pluck one feather from that proud and haughty bird, the emblem of American liberty; then who among true physicians would curtail or abridge one right belonging to a true man, be he an American or not?

I claim that we are trying to enlarge the peoples' rights, by giving them better health, longer lives and greater freedom, which, when all taken together, means better prospects here and hereafter. How can a man serve God, his country or himself, if always afflicted? It is indeed strange that man with the most complicated of machinery, with far reaching intelligence, will permit himself to be dosed with drugs most potent for good or ill, by the most ignorant pretenders who frequently cannot produce anything to recommend them, other than brass. O, I am sorry to be forced to say that this frequently appears to be at a premium, the estimate upon life below par. At least, many place in their action greater value upon the lower order of animals, that they do upon themselves or friends.

Unfortunately, a large majority of our medical schools are controlled alone by self-interest. This being so, they hold out the greatest inducement possible to students to procure large classes, caring nothing for the quality of the material that they receive or graduate, which means money to the professors and a species of sly advertisement throughout the country, that their being professors is positive evidence of superior skill in their particular department, and this brings them patients, and as professors large fees.

Then the physicians in the entire land knowing these things to be so, are anxious to have their names heralded throughout the country as professors, with all the perquisites thereunto

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belonging. This is the prime factor in breeding so many colleges. Gentlemen, these things must be done away, either by the state taking entire charge of medical matters, supervisory, with competitive examinations for a chair, or full endowment; that the size of the classes or the number graduated, will not change the size of the professor's fees. Even then, I would not do away with state examinations. There is another growing evil (I mean full grown), to which I shall only incidentally allude in passing, and that is, the degrading use that professors allow in the matter of their names, official positions, honorary degrees, the names of the societies with which they are connected, all, yea all, and sometimes more appended, and in recommendation of some wonderful water or wine, and sometimes a proprietary medicine. I have seen honored names, names that are enrolled high upon the escutcheon of medicine, degraded in my estimation by such use. And gentlemen, this was evidently done for a sinister motive, that their names might be come household words with the masses, and bring them the pound of flesh.

The reverend gentleman is to be pitied, rather than condemned for his part in advertisements, as he lives by "hope and faith in things not seen," but expected in the future, and in his idealistic sphere is very likely to run *after strange, unseen and unknown gods.* And while I have the greatest respect and veneration for religion, I am forced to admit that the church has done much to restrain the advance of intellect from the earliest ages. If true godliness and not money, were the thing sought, then our reverend gentlemen would pursue a different course, then they would fully enquire into things temporal through the proper channel, and know of a truth the value of a thing before recommending it. These same gentlemen criticise severely all who call in question any particular doctrine of their church, or the truth or authenticity of the bible,

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or any part of it, and I am charitable enough to grant them this prerogative.

If they knew and fully understood what they were doing, I feel fully persuaded that they would not allow their names to be used so sacriligiously, and they would further learn that the discovery of an abracadabra, panacea or medicamentum for all the ills that human flesh is heir to, has not, and cannot be discovered, and that it is absurd to expect to find it either in a simple or compound mixture. Neither need they search here below for the fabled Lethean stream from which we poor mortals can drink, and be instantly transported from the dark and dismal abode Laratarus to Elysium, where all misery and pain of body or mind, are swallowed up in pleasant forgetfulness.

Because there is only one source for the cure of the sin-sick soul, they need not jump to the conclusion that every pretender (and they are warned against such), has discovered the *vis vitæ*, and make the mistake in spite of the teachings of the bible, that human suffering is to cease in this wicked world.

The present Illinois Medical Practice Act should be so changed and amended that every medical man in the state, shall be compelled to submit to and pass a searching and thorough examination in all the different departments or branches of medicine, at the furthest, every five years, but in the case of a specialist, in his specialty, requiring him to pass the essentials at the fixed standard for all. And then give graded certificates, giving only certificates for the branches passed, and also the grade reached in every case, so that a doctor will be taken for his exact worth and nothing more; *e. g.*, if a specialist comes up to the standard in the theory and practice of medicine, give him full credit for it in his certificate, if not, withhold it, etc., etc. Then when two physicians meet in consultation, we will know the value of the opinions of each, and if this is not satisfactory to all parties concerned, let them appeal to the State Board of Examiners for final decision.

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Let this board have a representative from each and every college in the state, giving every *pathy* a representation *pro rata*. If any person should make great discoveries in any department of medicine, give him honorable mention for the same, and thus foster and encourage a spirit of emulation, which is commendable in every domain of life.

Make it a misdemeanor punishable by fine, etc., for any one to attempt to practice in this state without authority from the state board.

There are common grounds that all the different isms or pathies can meet upon, and as to whether the patient shall be medicated according to the rules of one old or another school, leave the responsibility with the patient or friends, or both.

I claim that it is the duty of the state to protect the citizen against every kind of fraud, whether it affects health or property, and unfortunately it affects both in medicine, which makes the claim two-fold.

But many will say that you belong to the so-called old school, and will condemn all other forms of treatment of disease, such as Homœopathy, Hydropathy, Electropathy, Eclecticism, Kinesipathy, Bootapathy, and by what right do you claim the rightful power to place an embargo upon these different crafts. I simply ask that they shall not sail under false colors, and be subject to the same laws in the navigation of them as the vessel in which I sail, for they are forced to sail against the same obstructions, and to combat the same head winds, but if they desire to sail by a different route, place them subject to the same penalties for failure or ignorance.

I demand that all shall have a good preliminary education, and be well acquainted with botany, chemistry, anatomy, physiology, pathology, surgery, etiology and symptomatology, and the treatment as taught by their school, and be required to give positive evidence every five years, that they have kept up with the discoveries and improvements of their plan of treatment,

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as well as those that pertain to the essentials. These requirements certainly do not work a hardship, when you place in the balance against them, health, life and limb.

The requirements of a student in medicine are much greater than they were even fifty years ago, made so by the many aids brought to bear in the study of the same; with the accidental and intentional discoveries made by vivisections and experimentations. The chemist, the microscopist, the physicist have all added to the garner of our knowledge, while luxury of all kinds, trades, traffic, professions, rapid communication between different parts of the *world*, filth as well as the opposite, manners and customs, also have and are playing an important part in the production of disease, in its varied modifications.

The selecting of a site and the building of a house requires varied information, as to health, comfort and convenience, all coming within the purview of the medical advisor. When the wants of men were simple, and his habits few, then the protean forms of disease as now witnessed were very rare.

In illustration of my liberality in the matter of the treatment of disease, I present you the following:

If the expectant or do-nothing line of treatment is selected, even to the (200) two-hundredth dilution, give it to them, *similia similibus curantur*, with all of its nothingness, that the *vis medicatrix naturæ* in the chance for life or death may have a full and fair show, and hang the person that attempts to depart from it in any particular. But, if preference is given to electropathy, see to it that a Jupiter of a man, known for his power in toying with thunder-bolts, is placed in charge, that no deception shall be practiced upon the afflicted one. If another elects bootapathy, give him a lightning-rod, or book agent with a true and tried tongue, warranted to run twelve months without winding, sleeping or eating, that the poor sufferer shall be pumped thoroughly dry, that the very germs of disease shall be drawn out, and that not one particle of air

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shall be left in or around the patient to give succor or support to a spore for fructification or proliferation.

But if a *steam*-doctor should be placed in charge, do not do anything to prevent, his treatment having its full force, but give him a man that can tell to a shaving the exact number of pounds of steam to the square inch that is requisite to blow a given number of pounds of human flesh to kingdom come, that the practice shall be thoroughly scientific.

And if Kinesipathy is to have charge of the patient, give him a Samson or a Hercules of a fellow, that he shall be bent, broken, twisted or contorted, *secundum artem, selah.*

If an Eclectic is wanted, give him a pantheus of a being, with seven heads and ten horns, and having the swiftness of an eagle; that the doctor shall combine the wisdom of all the gods to insure the selection of the plan; the hideousness of the evil one, to give force to the treatment, and swiftness that he may travel rapidly in quest of the treatment, and then to his patient to administer it.

And what if a so-called *old school physician* should be selected, what of his qualifications?

Let him be a man sound in body and mind, fearing and serving the Great Jehovah, fearless to do wrong, anxious to know and do right, with the gentleness of an angel and temperate in all things, bringing to his garner of knowledge from every source possible, that the healthy can rely upon him, and the afflicted can lean upon and confide in him; knowing and believing that for the one, they have a true and tried pilot, that will utilize all known human knowledge in sitting man around every pandemical wave; and in the other, that he will combine all human knowledge, being truly cosmopolitan in his search after information; not only taking all to be gotten from the nadir to the zenith, but even beyond upon both ends of the line. When the trying hour of the separation of

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the soul from the body shall come, he will direct the poor sufferer into the haven of eternal rest.

Then when the race of life of this physician is run, he shall receive the promised benediction, "Well done thou good and faithful servant, enter into the rest prepared for you."

You cannot call this exacting in the matter of who, when, and how the medication shall be used or given. But I do demand for my fellow-mortals, that whosoever desires to do these things, shall first give positive evidence that he is thoroughly acquainted with the construction and healthy working of this wonderfully and fearfully constructed machine—man, of whom it is said, that he occupies a position a "little lower than the angels," and that he be required to follow up his studies, so as to keep abreast with its progress, so that when he attempts to correct any of its disarranged or disordered machinery, and set the same in motion, he shall do so intelligently. In conclusion, I desire to place myself upon record as not having any disposition to place one unnecessary obstruction in the way of the aspiring and worthy, but poor young men. I know too well, that many of our best minds, *backed up* and sustained by a good physique, come up through great tribulation, from what some are pleased to call the lower walks of life, and after making an honored name in their calling, are styled self-made men. I furthermore know, that some of the most miserable failures, mentally, morally and physically, come from the higher walks of life, and are known as those who have been raised with a silver spoon in their mouths. The saying has almost become proverbial, that if a family contains a child mentally and physically weak, that he must be transformed into a physician, why, the deponent sayeth not, unless it be to give him a chance to doctor himself.

No worthy person need ever fear the passage of any law that has for its object the elevation of the medical profession.

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The class that work to make themselves, will always succeed. They know no such word as fail, as the many examples which this great country has furnished illustrate and testify.

Dr. J. T. Hogden of St. Louis once remarked to me, that this world was controlled and run by these self-made men. The mantle of the father either in this world's goods or in mind very rarely falls in full vigor or force upon the head and shoulders of the child. Where the exception does occur it requires work to hold the one, and to develop the other.

> "Learning by study must be won;
> 'Twas never entailed from sire to son."—*Guy's Fables.*

The drones and the antiquated or fossilized doctors, who once run lightly through a few medical works, then commenced the practice of medicine, throwing aside all authorities, now, when opportunity offers, take great delight in descanting upon their wonderful experience, as if one man's experience, (unaided by that of the myriads of others that have added to our knowledge), could be of much value.

Time alone can rid the profession of these, and then we must see to it, that their niches are left empty, with this epitaph above: "They served their time, whether for good or ill, time alone can tell." One thing we do know, they, like the drones in a hive of bees, propogated their species, which we have tried to improve upon.

"With malice towards none, and charity for all," I present you these hastily written thoughts, with but one object in view, that of adding my mite towards the elevation of the medical profession to a standard that will make the opinion and practice of a medical man respected and honored, wherever and whenever sought. And that the healthy can rely upon the profession in the prevention of disease, to the extent of giving every aid and assistance to them in their laudable efforts, as well as that the afflicted may seek them for aid in either miti-

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gating or removing disease. "Man comes upon the earth to live and grow as the grass, and when he reaches to full ripeness, he too must wither and die."

> "When our souls shall leave this dwelling,
> The glory of one fair and virtuous action
> Is above all the scutcheons on our tomb,
> Or silken banners over us."—*Shirley.*

Nothing is asked by us that works a hardship to any one, for the worthy young man or woman, though poor, will succeed the better by being raised to a higher plane. And with the medical schools in the hands of the government, provision will certainly be made for their wants; or, if the schools should remain as private property, they will always find some kind hands and open purses to aid them. "Where there is a will, there is always a way." Then let us lift the worthy up, rather than pull those down that have reached an exalted position in the profession by hard labor. Let us appeal to those above us to lend us a helping hand, that we all may be the better fitted to fulfill our mission.

Mind, like property, is unequally distributed among the human family, and after a person has fully fitted himself for the practice of medicine, if he or she should find that the practice is not suited to his or her peculiar tastes, by reason of education, inclination or adaptation, it would be found that the time spent in its thorough study, fitted them for almost any aveuue of trade, business or profession that might be selected.

To the aspiring and worthy person, there is much to encourage, as there is abundance of room upon the higher rounds of the ladder of medicine, while the lower are full to overflowing. I even feel warranted in asserting, that the middle rounds are not kept, *para passe*, as proportional to the deaths and graduations. Aim then high, and if you miss the mark, or fail to win the prize, approximate it as closely as capacity and

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diligence will permit, but do not rest content down in the mire with the sluggard.

> "A little learning is a dangerous thing,
> Drink deep, or taste not the Persian spring,
> For shallow draughts intoxicate the brain,
> But drinking largely sobers us again."—*Pope.*

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CONTRIBUTION OF E. INGALS, M. D.,

OF CHICAGO,

TO THE REPORT OF THE COMMITTE ON MEDICAL LEGISLATION.

That the paramount interests of civilized life require the fostering and protecting care of law, has been fully established by the aggregate experience of mankind, and certainly few things can be of greater importance to the human race than those that conserve its sanitary interests; and this, whether the subject is viewed in the light of the individual and family, or of the public good. A large percentage of the sickness that is suffered—and this not alone by the ignorant and indigent, but by the wealthy and intelligent as well—is preventable. Though centres of infection are apt to be first developed amid squalid surroundings, diseases thus engendered often escape from their place of origin to invade precincts that would otherwise have remained exempt. Ignorance of sanitary laws, or inattention to their observance, is, however, by no means limited to the poorer classes.

So far as is possible, protection against all deleterious agencies is a right to which every citizen is entitled from organized society, and government should make the poisoning of the essentials of life and health a penal offense, and it should insure that those who are commissioned, under its laws, to the practice of medicine, should be reasonably well qualified for the proper discharge of the duties of their office. Our commerce, manufactures, agriculture, and common schools are all

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regulated to some extent by laws enacted in the supposed interests of the people.

We have also made some effort to promote the sanitary good of society, in the same manner, for in 1877 the legislature of Illinois passed a law to regulate the practice of medicine, and another to establish a State Board of Health. Hopes were entertained that great good would come from these enactments, especially as it was believed that their influence would increase the efficiency of the medical profession. These laws have now been in operation long enough to test their capacity to accomplish the purposes for which they were placed among our statutes, and our hopes have hardly been realized.

From a careful observation of the effects of these laws ever since they have been in force, I cannot see wherein they have done much more than to secure a somewhat imperfect registration of the doctors and midwives of the State, and satisfactory mortuary returns. In spite of them, quacks practice with impunity, the same as before; revoking the license of a well-known practitioner, who under the convenient guise of an alias is guilty of the most unprofessional acts, does not prevent him from continuing his vocation; infectious diseases are not generally reported, and the returns of births are so incomplete that we might better make no pretense of collecting any such statistics. Our sanitary laws are not sufficiently explicit and comprehensive; they are not stringent enough; in some particulars they are obscure, and they do not contain proper provisions for their enforcement. Increased security against the dangers of small pox should be insured by providing for a more complete system of vaccination; by enacting severe penalties for secreting such cases, and by prohibiting or regulating their transportation from place to place. The placing of warning cards to indicate the location of diseases that are infectious and highly dangerous should be made compul-

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sory, and public funerals in such cases should be prohibited by specific enactment.

Infected premises should be inspected by an official appointed for the purpose, who being clothed with authority, should be required to cause the removal of all insanitary conditions incident to the construction aud surroundings of the place. These are only a few hints and suggestions of what might be embraced in the scope of the law.

Some legal means should also be taken to improve the character and increase the usefulness of the medical profession. On this subject I wish not to be misunderstood. No one is more conscious than I am that the excellence of the medical profession, as represented by its most intelligent members, was never before as high as it is now, and it is every day improving. But while this is true, the facts we meet when we consider the other extreme of the profession are such as should stimulate us to an earnest effort for their removal. Two bodies cannot occupy the same place at the same time; and if the law should debar incompetent applicants from entry to the profession, the places from which they are excluded would be filled by those who are fitted to occupy them; but if the incompetent are once admitted, they can only be deprived of business by the competition of those who are more capable and better instructed, and the decision between them must be made by the tribunal of the general public, which does not possess qualifications properly to determine such a question.

I believe the standing and worth of the profession would be advanced by the establishment of a State Board of Examiners, before which all who desire to practice in the State, and who should not already have been registered should go for examination, and only to be allowed to practice after they had received a certificate of competency from such board. This board should be prohibited from granting licenses to practice to all who are not graduates from some medical college in good

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standing, and this good standing of any medical college should be determined by the legal requirement that it should exact of students certain literary and scientific qualifications, to be prescribed by the law, and four years' study of medicine, and not less than three annual courses of college instruction, of not less than six months each, for graduation. This would not prejudice the interests of our medical colleges, but would place them all on the same basis, and lead to a generous and laudable rivalry between them as to which should give the best instruction, and this question would be determined by an impartial tribunal. Were such a plan adopted it would impose no hardship on our medical teachers, for they would receive the same rate for teaching as they now do, and if they were required to give more instruction to each student of medicine, they would be paid proportionately more for it. But should this not be the case, it would be no valid argument against the proposition; for so trifling a matter as the pecuniary interests of a few medical teachers should not be permitted to dominate the best interests of the whole people.

If the medical diploma is to continue to be allowed to confer on its possessor the right to practice medicine in Illinois, great discrimination should be exercised in bestowing it. At present the facility with which it may be obtained not only diminishes its value, but also imperils the lives and health of the people.

Though our State has made a great advance in numbers and wealth, and medical students have abundant means, and leisure for prolonged study, we continue in our requirements for ingress to the profession to follow practices suitable only to a primitive state of society. The time and money necessarily expended in gaining admission to the profession under the plan proposed would be increased, but the physician's rewards would be greater after the admission was gained. Fifteen years of practice after thorough preparation is better for the

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physician than twenty years with an indifferent preparation, while the gain to society is much greater than to the physician.

Should Illinois do this, the schools of other States would be obliged to follow our advance, or we would educate all of our own practitioners, and while our graduates would occupy the entire field in Illinois, they would be preferred in other States, because they had received their medical education under a more thorough system of instruction.

The excellent qualifications of recent graduates who present themselves for examination before our hospital boards for appointment as internes in these institutions is a subject of common remark. These places are coveted, and it is known that superior attainments are necessary in order to secure them, and the class of students who may indulge some hope of gaining them, work for them from the time they commence their medical studies. If there were fifty such places where there is now but one, there would still be no lack of well-qualified graduates to fill them.

Raising the requirements of practitioners of medicine in Illinois would result in no void in the profession. It would only compel a certain number of persons to follow useful vocations outside of the profession, whose labors in the profession can be spared with mutual benefit to themselves and the public.

An easy and entirely practicable auxiliary for improving the character of the profession in Illinois, would be the establishment in some large city of the State of a medical and dental department of the Illinois Industrial University which is located at Urbana. Illinois has been generous—as she should continue to be—with her charitable institutions. She provides liberally for the insane, the blind, the deaf, the feeble-minded, and the convicts in her penal institutions. Would it not be just, wise, and politic, to exercise equal liberality towards the class of normal healthy minds that by higher cultivation would

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gain added powers of usefulness for the public good? The University at Ann Arbor, so far from being a burden to Michigan, has doubtless been the means of increasing her wealth and numbers to a degree that would have made its founding and support an act of wisdom, if viewed only in the light of the State's material interest. Had Michigan never established this University her rank would be less advanced than it is at present among her sister States. But it is unfortunate that the medical department of the University had not been located at Detroit, for all medical schools, for obvious reasons, should be in large cities.

Illinois will soon have six or eight millions of people, who will possess an amount of wealth that we at present little realize, and we have greater cause for solicitude about our future moral and intellectual condition than for what pertains to our material interests. We should provide for a University that would in time take rank with any in the world. Such an institution would be of incalculable benefit, and would stamp its impress on our entire people.

The world is familiar with Dartmouth, Cambridge, New Haven, and Ann Arbor in America, with Oxford, Cambridge, Heidelburg, Göttingen, and many other cities of the old world, chiefly because they have been the seats of learning of superior excellence. If the Illinois Industrial University had a medical department, through this it might fix the standard of medical education for the State, for all the schools would necessarily advance their requirements until they would be recognized under the statutes by the board of examiners; because no school in the State would be willing to issue diplomas that would not entitle their possessors to such an examination. The expense of such a department to the State need be nothing beyond the original plant, as fees from students, no higher than are now charged by other schools, would pay teachers of the first rank, meet all incidental expenses, and furnish it mu-

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nificently with every means of teaching and illustration; and should it acquire the public confidence and sympathy by establishing and maintaining a high grade of excellence, it would doubtless become the recipient of generous private endowments, as the medical departments of Harvard, and of the University of Pennsylvania have from a like cause.

A single appropriation by the State of one hundred thousand dollars, to be expended in building and equipping the institution, would be all that would be required to establish and maintain a medical department of our University that would be a credit to any State, for the school once in operation would provide abundantly for its every want from the fees of students. We annually graduate a larger number of medical students than we ought. The adoption of the recommendations we have offered would tend to decrease the number and improve the quality of those receiving the degree.

DISCUSSION.

Discussed by Drs. J. H. Rauch, of Springfield; W. Hill, of Bloomington; L. Bauer, of St. Louis, Mo.; E. P. Cook, of Mendota.

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MANAGEMENT OF THE DISEASES OF CHILDREN.

By W. O. Mendenhall, M. D., Georgetown.

T. King Chambers says, when we are sick:

> "'Tis life of which our limbs are scant,
> 'Tis life, more life, for which we pant,
> More life and fuller, that we want."

Since my appointment one year ago, by this society, to the duty of writing upon the subject of the management of the diseases of children, there have been born into the world thirty-two millions of these helpless little creatures, and not one of them born with the power to speak a single word, or walk a single step; not one of them born with power to support itself, but all alike helpless, born subject to the laws of health and disease, and before they will have reached the age of five years, sixteen millions of them will have died.

Well might He, who came down from heaven and dwelt among men, have exclaimed, "Suffer little children and forbid them not to come unto me, for such is the kingdom of heaven."

The whole world stands draped in deepest mourning, looking down upon the dead cold forms of these sixteen millions little children, and in deepest thunder tones the wail goes up to heaven,

> "Is there not a balm in Gilead,
> Is there no physician there?"

In the study of the diseases of children, you should gather as much information as possible before making any manual examination.

The eye of the physician should inform him of a great deal

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which the ear and the touch may afterwards confirm. This is of importance, insomuch that if we had to depend entirely upon physical examination, we might be thwarted by the restlessness and excitement which is frequently present. It is fortunate to find the child asleep when we make our visit, as the pulse can then be felt, the breathing, the state of the skin, and other matters, can be noted, before the child is aroused. While the child is sleeping, what are the other points of which we should take note, before arousing it? First, the attitude; the posture, if easy and natural; the color of the face, if flushed or pale; the color of the lips, if white or livid; the state of the skin, if dry or moist; if the moisture be general or restricted to the head and forehead; the expression, if natural or painful. We should note the presence or absence of moaning, starting, twitching and grinding of the teeth; the action of the nostrils, if quiet or working strongly; the eyes, if closed, or partly closed, or staring, or clenched; the respirations should be counted; the condition of the fontanelles should be considered, if closed or open, if pulsating greatly, if distended or retracted.

By the condition of the pulse you may be able to diagnose the disease, whether it is of a grave character, such as tubercular meningitis. The size and shape of the head should be noted, if large, if hot, or if the veins are full.

Let the child then be aroused; its aspect should be observed while waking. Does it frown or smile? is it peevish or languid, excited or resigned? Is there a dark ring round the eyes? Also, the color and shape of the face, and the presence or absence of snuffling. Next, let the child be stripped; the surface should be mottled, the flesh firm, the skin smooth and elastic to the touch, not flabby; the arms and legs should move freely.

The joints should be noted, if swollen, if large or small. The respirations should be diaphragmatic in character; in ordinary breathing there should be no recession of the chest-walls;

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this occurs in sobbing, or if a mechanical impediment exists to the entrance of air into the lungs.

Eruptions upon the skin should be looked for. Notice the condition of tongue by taking advantage of the child's crying, or, if it be good, its lips may be touched with the fingers, and it will protrude it. The gums should be felt, if hot or swollen, or the reverse. Auscultation and percussion should be carefully done, remembering the importance of the lungs. Get the age of the child, note the power it has in raising the head from the pillow, remembering that a child does not raise its head from the pillow till about the second month. It cannot sit erect till the fourth or fifth month, and usually does not run alone at the age of twelve-month.

There are a few very practical inferences to be drawn from the peculiarities in the appearance of children, and we may be very greatly aided by them in their management.

For instance, the expression of countenance may be a great index; the upper portion of the face is affected chiefly in brain disease; the middle portions of the face are changed in heart and lung affections, while the lower portions suffer mainly in abdominal troubles.

Do not forget the great significance there is in the gestures, the posture, the tongue, and the tears, for by being able to read their language, your diagnosis will be correct, and the application of suitable remedies may bring a speedy restoration to health. The temperature, the eye, the pulse, all speak volumes that must be understood if we expect to be successful in the treatment of the diseases of children.

Tupper says: "A child in a house is a wellspring of pleasure." See that mother as in her weakness she gazes upon that little babe as it sleeps by her side. Gradually as the stream of life acquires power, new feelings of love expand her heart. Soon the infant rewards that fond look by a smile, and by its little exclamations of pleasure makes her rejoice also.

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Thus it grows daily, and by its more distinct childish prattle gives evidence of opening intelligence.

But see the picture; the sad looks of those who love it, when sickness creeps in. See that haggard, excited, restless look: hear its moan.

That sea of pleasure, has now become an ocean of grief, and like the blighted flower, must droop and die. Oh, that I could say some word that would arouse us to greater diligence upon the subject of the diseases of children. Man, it is true, is born to sorrow; but I believe that many of these sorrows are of his own creation. Oh, that I could say something that would lead to that diligence that might prevent, by some means, the great infant mortality to which we are now submitting.

With these remarks, necessary as an introduction, I proceed to the consideration of some of the causes of mortality and viability of children.

There is no period of life that requires so much care as does the first year of a child's existence; for it must be washed, fed, and warmed, with no other guide than the judgment of the nurse. A child has anatomical peculiarities that should be known by the nurse, and constantly kept in the mind.

For instance, a new born child has a small stomach, and should not be stuffed with food. Its intestinal action is rapid, and the power of generating heat is small, hence the great need of warmth. Its heart, brain and liver are proportionately large. A child's brain contains less relative phosphorus than the adult brain, while in the brain of the aged the phosphorus is scant. The brain of an idiot contains the least phosphorus of all,—a good hint for treatment.

It is worth remembering, that owing to the large size of the liver in infants, a child is often sick when placed on its left side after suckling, owing to compression of the stomach by the weight of the liver, and a difficulty may occur in a child

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sucking the right breast; if such be the case when you are called to see the child, and science prescribes, the position of the child will be changed, but if ignorance, the prescription will be drugs. Science will at once control the difficulty, ignorance probably increase it.

The feeding of a child is one of the most particular things to attend to during the early life. No mother should willingly delegate to another the duty of nourishing her offspring; no food agrees with a child like its mother's milk. I know there are cases in which suckling is evidently beyond the mother's strength, or it may be inadvisable by reason of some hereditary taint, as phthisis, syphilis, etc. As a rule no artificial food whatever should be permitted until the sixth or seventh month. In cases where artificial food is absolutely necessary, cow's milk, with water and sugar properly added may be given. Some physicians condemn the practice of giving the milk diluted, seeming to overlook the fact that the casein of cow's milk coagulates into hard, gelatinous, indigestable lumps.

By adding one third or one half water, we diminish the casein that much, then by the addition of sugar and and a little cream we have the richness of the milk, and we have rendered it easy to digest. Many physicians have written upon this subject and many kinds of food have been suggested, all of which are more or less beneficial, yet the physician of science will soon learn that food for children, like the medicine, must be ordered according to the condition of his patient.

It is certain that some children will digest and thrive upon varieties of food, which are deleterious to others, because their powers of digestion are remarkably stronger. The explanation of this is, in my opinion, to be found in the varities of diatheses which even thus early assert their presence and require diligent attention. It is the child of a rickety and rheumatic diathesis that suffers most from dispepsia.

Tuberculous children are far hardier in this respect, while

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the strumous and the syphilitic occupy a medium position. We cannot pay too much attention to the special diathesis of the child. If the child is constantly sick and emaciated, with depression of the fontanelles, keep it to a healthy breast of milk.

Before leaving general principles, I must urge the necessity of light. Would you have a strong robust child? keep it in the light. Would you have that pale delicate child enjoy good health, with rosy cheeks, a light heart, and a pleasant temper? keep it in the light, the sunlight and the air. As well might you think of growing a healthy stock of corn bearing its full ear, while shaded by the dense forest, as to have the bloom of health and beauty on the child, that is constantly kept from the light of the sun. There are a few special forms of disease that I desire to speak of before I close, such as thermic diarrhœa, scarlet fever and diphtheria. There are a few of the forms of disease that sicken the hearts of parents as they realize the presence of them in the family.

They cannot be spoken of at length here, as either of them would form subject matter for a volume, but I desire to urge the necessity of a more thorough understanding of their diseases, and of their treatment.

Diphtheria is a specific, communicable disease, occurring epidemically, endemically and sporadically, and characterized by more or less inflammation of the mucous membrane of the pharynx, larynx, or air-passages, and by the formation on the surface of those parts, especially on the mucous membrane of the fauces and windpipe, of a layer or layers of lymph or false membrane, generally showing signs of bacterioid mycosis.

The exciting cause is a specific contagion.

But in the brief space I must devote to this disease in this paper, I cannot attempt to give the natural history of this contagion, but can only refer you to the many authors who have so carefully studied and written upon this subject. There you

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can get the climatic and atmospheric conditions under which the contagion lives and flourishes; its mode of diffusion; the manner in which the poison enters the system; the period of incubation, and the predisposing causes.

Here I desire to urge the great necessity of becoming well acquainted with the protective influences against an attack of this loathsome and much-to-be-dreaded disease. We *especially* need to know the symptoms, and to be able to recognize the stages.

Thus fortified with such *thorough* research, and knowing the *grave* character of the prognosis, we enter upon the treatment of our cases, with a trembling hand and a doubting heart.

As to the treatment I would say much has been written, and many things have been suggested. I think many things have been recommended that were at least useless if not harmful.

Sir William Jenner proposes a treatment which I think worthy of careful thought. He says, "of the general remedies which have been recommended in diphtheria there are four kinds, viz: (1) The recuperative agents; (2) the alleged specifics; (3) the antiseptics; and (4) the expectorants." And then remarks that some remedies will belong to more than one of these divisions. I have for years followed in the wake of his treatment, commencing with a calomel purge, aided if necessary by a saline aperient, after which my general reliance is in iron, quinia, chlorate of potassa and alcoholic stimulation. With these remedies used at the proper time, I do not think it necessary to lose so large a percentage as many of our authors give. I believe that the tincture of the chloride of iron and the chlorate of potassa are the great desideratum. I use them combined and largely diluted with water, or if there be much debility, with water and alcohol. I give it in small but oft repeated doses, thus making frequent applications of one of the best topical agents. Later in the disease the patient must be

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well nourished and carefully stimulated, and do not forget quinine as a general tonic.

Scarlet fever, is another form of disease, which is so frequently met with in children, and sometimes produces such fearful results, that I desire to mention it here; not because I do not think it has been well written upon, but because those who do write, differ so much in their treatment. When two men write upon the same disease, and write understandingly, their views should correspond. Early in the treatment, I give calomel, assisted by a dose of salts in a few hours. While the fever is running high, veratrum viride, chlorate of potassa and the warm bath, are the medicines upon which I generally rely. While the fever runs high, I bathe the entire body frequently, keeping it warm when not in the bath. After the eruption begins to fade, and the skin grows harsh and bran-like in appearance, I cease bathing and oil the patient's entire person, morning and evening. By this method, I secure in the first place, a continued and full eruption, and in the second place, I effectually close the otherwise open pores of the skin and secure the patient against cold, one of the most fruitful sources of the many unpleasant sequelæ so often met with in scarlet fever. As an application for the throat when there is much soreness, I give with chlorate of potash water, the tincture of the muriate of iron. This I give in small but oft repeated doses, thus securing an excellent topical application, as well as the desired impression upon the blood. Later in the disease, I give a place to stimulants, tonics and nourishment; *if necessary a very prominent* place.

I come now to speak of *thermic diarrhea*, a form of disease that, once seen, can never be forgotten. To attempt to describe it would simply be mockery, for I am persuaded that no pen could be made to portray its horrors. Dr. Day has tried to give a description of it, but has fallen far short of the fearful reality. The heat and thirst are so intense that the

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little sufferer will grasp, and drink with the utmost greed, the bitterest draught. In their anxious distress, I have seen these little sufferers tearing the hair from their heads, the gums from their teeth, and actually chewing the ends of their fingers almost off; biting the nurse, scratching and clawing, moaning and crying like some maddened wild beast. Such patients will die unless they are speedily relieved. To do which I would recommend Dr. Day's method of bathing, and freely administering as a drink, *eau albumineuse of Trousseau*, made by stirring into a glass of cold water the white of an egg, with the addition of a little sugar and essence of cinnamon. This, diligently administered, *will give prompt relief and sweet sleep.*

In view of the fact that we so often hear such expressions as "That child is too small to be doctored by a physician; he could not tell anything about what was the matter, or what to do for it; send for some old lady;" and in view of the fact that we do hear men, claiming to be physicians, acknowledging that they cannot doctor little children, and even refusing to visit them when sick, I close by saying: It is but a little child; I do not understand that rolling head, those fearful convulsions, that stifled breathing, those piteous means. Lay it into the arms of the unlettered and unlearned, and ask ignorance to prescribe the needed cordial.

Far better that we rally to the standard of our profession, and bring that knowledge to which we make so loud a claim to bear upon these suffering little children. Prescribe the needed cordial, cool that parching brow, and quell the tumultuous throbbing of that perturbed heart. By so doing we will add honorable stars to our crown and joy to the world.

DISCUSSION.

Discussed by Drs. N. S. Davis, of Chicago; C. T. Fenn, of Chicago; K. E. Rich, of Wenona; L. G. Thompson, of Lacon; L. Bauer, of St. Louis, Mo.

Dr. N. S. Davis said he did not purpose to occupy time on a general

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discussion of the diseases of children, but only a few words in regard to one or two topics. To treat children understandingly and to lessen infant mortality we need to study more carefully and systematically the causes which lead to so much suffering and sickness of a fatal character. A large proportion of infant mortality comes through evacuations of the bowels at particular seasons of the year. We look for their bowel complaints as regularly as we look for the seasons, in all densely populated districts in large cities, in the temperate zone, in the northern half of the United States and in corresponding portions of Europe. The first week of continuous high temperature that runs through day and night without abatement these complaints begin. In localities where the high temperature is not continuous day and night there is no high prevalence of these diseases. For instance, in San Francisco, not very far from the latitude of Philadelphia, there is little prevalence of this disease. In Philadelphia and New York there will be ten deaths of infants from bowel affections to where there is one in San Francisco in proportion to population. Go to New Orleans, a city proverbially unhealthy, and the rates of mortality from bowel affections in young children is hardly more than one-third or one-quarter the ratio in St. Louis, Cincinnati, Chicago, Philadelphia, New York or Boston. If you ask the reason, you will find that although in New Orleans they have a longer summer, on account of the sea breezes, they do not get as high temperature as in the more northern cities. The breezes from the sea come at night and cool the atmosphere, and whenever this is the case there is not a high rate of mortality or sickness from bowel affections in young children; but wherever the reverse is true and the night is not modified by the cool influences of neighboring oceans or seas, and the temperature continues high day and night for a period anywhere exceeding five or six days you are just as certain to find a prevalence of these affections as the season comes. It is not high temperature merely, but continuous high temperature. It is generally sometime in July that we get a period of this continuous heat, which seems to come in waves. It is at this period that the bowel complaints of children begin to prevail. Teething is not the cause of these affections. As many children get teeth in January as July, and yet you cannot find a child dying with bowel complaint in January in the city of Chicago; but five hundred children will be buried in July and five hundred more in August. What causes the high death rates in those months? Some people think it is because they get bad vegetables; but they don't get any vegetables; they are not old enough; they live on the mother's breast. As soon as we get a continuous high temperature, it acts upon the nervous system in a two-fold way; on the vaso-motor nerves it directly acts to diminish their influence on the circulation in the membranous surfaces, both exteriorly and interiorly. In other words, it relaxes or puts into an atonic condition the vessels of the whole interior of the body, and children are more susceptible than adults. High temperature also diminishes the affinity of atom for atom in all things. A universal law of nature is, that in proportion as you separate the atoms

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of matter you diminish the power with which they are held together. As you increase the heat you increase the distance between atom and atom, until the most compact substance becomes fluid, like water, or disappears in vapor. It is this impairment of the general force of affinity, if you choose to call it such, and this diminution of the activity of the vaso-motor nerves that brings about the looseness of the bowels. Now, one means of preventing the evil effects of this continuous high temperature is for mothers to bathe their babies during this hot weather, morning and evening regularly, in water cool enough to act as a stimulus on the vaso-motor nerves and induce a better tone in the vessels of the membranous surfaces. I shall be very glad if in the coming summer the hints that I have given out shall be taken up, investigated and applied by the members of this society, and if they will, write me the results reached.

Dr. C. T. Fenn—I cannot believe that continuous heat is deleterious to the young. Neither can I believe that continuous cold is deleterious; but rather alternations of heat and cold, vicissitudes of temperature are the things to be dreaded. We know there is never a time in a human being's existence when all the conditions of life are so perfect as the day when he was born. The day and night are the same to the unborn uterine being. It is not cool temperature that is needed so much as uniformity. It is the heat which prevails throughout the day and the exposure to cold at night which does most harm. I do not see how an equal high temperature day and night can be harmful.

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THE UNSUCCESSFUL ALTHOUGH NOT ALTOGETHER FRUITLESS SEARCH FOR THE SUPPOSED MALARIAL GERM.

By Chas. T. Reber, M. D., Shelbyville.

As it is a matter of great interest to keep advised of the progress made in the investigation and discussion of the cause of the so-called malarial diseases, it is deemed appropriate to present a summary of the more prominent reports made on the subject in the last two years, premising these reports by a short explanatory introduction. In 1879 your reporter procured the publication of a small book entitled "Paresis of the Sympathetic Centres—the So-called Malaria: Its Etiology, Pathogeny, Pathology and Treatment." The views therein announced were the product of thirty years of observation, reading, and reflection prosecuted on the "field of battle," where the disease presented itself in very nearly all of its multiform phases, to-wit, the eastern slopes, valleys, swamps, and sea islands of Pennsylvania, Maryland, North and South Carolina, Georgia, and the prairies and bottom lands of Central Illinois. Desire for fame or novelty or controversy was not at all the motive in these labors. The perplexing variations in the symptoms and pathology caused the inquiry; and a wish to understand and to explain them was the object of its wearisome prosecution. It can hardly ever be a pleasant task to question the theories one has himself long entertained, and perhaps championed—theories taught by conscientious, eminent, and highly respected teachers. How much more agreeable it would be to say and to know that our teachers had

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never taught anything amiss. But when it becomes impossible to account for the phenomena which present themselves, on the theories which are in vogue, necessity directs a re-investigation of the subject. Copernicus and Gallileo were unable to account for certain astronomical phenomena on the theory of a stationary central earth and a revolving sun, and in spite of venemous opposition and cruel, barbarous, oppressive injustice, we now hold them in grateful remembrance for faithful yet unrequited toil and discoveries of transcendant importance.

Disinterested, unprejudiced inquiry will, no doubt, disclose the truth in due course of time. However, it is not to be expected that the revolution will be universal and simultaneous.

This record is appropriately begun by a reference to the experiments of Tommasi Crudeli, of Italy, with the bacillus malaria (as by him designated) upon rabbits and dogs. Why none of the experiments were made upon man is left unexplained. Of all the so-called malarial diseases he claims to have produced by the injection of the bacillus in a nitrogenous solution, only intermittent fever with its attendant enlarged spleen and pigment. Whether dogs and rabbits are not susceptible to any other form of malarial derangement seems to have been left undetermined. In fact, it has not been generally known, and perhaps is not now, that these animals were liable even to malarial intermittent fever. It is believed that a very wide experience is necessary for the discovery of that fact, at least in a general country practice in America. The experimental chemists who brave the dangers of explosion, and the progressive philosopher who manipulates the lightning, reach results of real, practical value. If the bacillus is the cause of malarial intermittent fever only, there is no reason for being timid with it in experiments. Why hesitate to give some fellow a malarial intermittent? There is a plenty of quinine at hand.

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"THE ETIOLOGY OF MALARIAL FEVERS."

Dr. Geo. M. Sternberg thus concludes his report to the National Board of Health (*Bulletin*, July 23d, 1881), giving the results of his experimental investigations regarding the cause of malaria.

"A great number of minute algæ, including bacteria of various forms, are found upon the surface of swamp-mud in the vicinity of New Orleans, and also in the gutters within the city limits.

"Many of these forms may be successfully cultivated in fish gelatine solution (method of Klebs), and this fluid, previously innocuous, acquires pathogenic properties as the result of inoculation with these organisms. Some of the organisms found in swamp-mud, in gutter-water, and in human saliva, are capable of multiplying within the body of a living rabbit, and the fluids and organs containing them (blood, serum from cellular tissue, spleen, etc.), possess virulent properties. In other words, an infectious disease is produced which may be transmitted from animal to animal by inoculation. Among the organisms found upon the surface of swamp-mud near New Orleans, and in the gutters within the city limits, are some which closely resemble, and perhaps are identical with the bacillus malaria of Klebs and Tommasi Crudeli; but there is no satisfactory evidence that these or any other of the bacterial organisms found in such situations, when injected beneath the skin of a rabbit, give rise to a malarial fever corresponding with the ordinary paludal fevers to which man is subject. The evidence upon which Kleb and Tommasi Crudeli have based their claim of the discovery of a bacillus malariæ cannot be accepted as sufficient; (*a*) because in their experiments and my own the temperature curve in the rabbits operated upon has in no case exhibited a marked and distinctive paroxysmal character; (*b*) because healthy rabbits sometimes exhibit diurnal variations of temperature (resulting ap-

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parently from changes in the external temperature), as marked as those shown in their charts; (*c*) because changes in the spleen, such as they describe, are not evidence of death from malarial fever, inasmuch as similar changes occur in the spleens of rabbits dead from septicemia produced by the subcutaneous injection of human saliva; (*d*) because the presence of dark-colored pigment in the spleen cannot be taken as evidence of death from malarial fever, inasmuch as this is frequently found in the spleen of septicæmic rabbits.

"The truth or falsity of this hypothesis can only be settled by extended experimental investigations, and while further experiments upon animals may lead to more definite results, it seems probable that that the *experimentum cruces* must be made upon man himself.

"In a disease not of a fatal character, and one for which we have a prompt and reliable remedy, it would seem that subjects for experiment might be found, especially among medical men and medical students, who have always shown themselves ready to subject themselves to inconvenience or even to danger in the pursuit of scientific discoveries of value to mankind.

"Finally, I may say that I entered upon this investigation without prejudice, but that I might be able to confirm the conclusions of Kleb and Tommasi Crudeli, whose researches were evidently prompted by a truly scientific spirit, and were conducted in accordance with a truly scientific spirit, and in accordance with strictly scientific methods. I believe that their work will prove useful in many ways to future explorers in this field, and have an abiding faith that light will eventually be shed upon this and similar problems by the persistent and intelligent application of the experimental methods, supported by all the resources of modern science."

"THE INCREASING PREVALENCE OF MALARIA."

(From the "Medical and Surgical Reporter" of October, 1881.)

There is a wide-spread belief among the public that malaria-

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paludal miasma is decidedly on the increase in many parts of the United States. Forty years ago Staten Island was a healthy place to spend the summer; now it is notorious for the severe agues prevalent. A score of years ago chills were next to unheard of along the Sound in Connecticut; now they prevail with increasing frequency every autumn. Many valleys in New Jersey, New York, Pennsylvania, and Delaware have for the first time witnessed malarial cases of local origin within a decade. In Philadelphia it is the opinion of some physicians who have been in practice many years, that malarial forms of disease are obviously on the increase.

These facts add much to the interest with which the questions relating to malaria will be studied. Nor do they exhaust its interest. The malarial poisoning presents itself under protean forms, and often is the active cause of diseases where it is not expected. Thus, in surgical relations, at the last meeting of the French Association for the Advancement of Science (April, 1881), there was presented a paper by Professor Verneuil on "The Surgical Aspects of Malaria." M. Verneuil thinks that the baneful influence of this poison is not sufficiently recognized by operators. It may give rise to a number of apparently spontaneous external affections; it may unfavorably modify the progress of intercurrent or pre-existing surgical diseases; it may arrest or delay the healing of wounds, giving rise to complications of different kinds, which render the prognosis more than usually unfavorable. Traumatism in its turn reacts upon malaria, bringing it out, or re-awakening it in individuals in whom it would otherwise have been dormant.

There are previous lesions of the stomach, duodenum and liver, which arise from malarial poisoning, and cannot be brought to a favorable termination unless this is recognized. There is no doubt but there is a hybrid form of fever, to which the term typho-malarial is applied, closely allied to enteric

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fever, plus a malarial element, and that the symptoms and lesions are indicative of both poisons. No one can doubt this, who has had much to do with invalids from or in hot climates, and has had an opportunity of seeing how the malaria in their systems modifies the symptoms and progress of other affections from which they may be suffering.

As for the investigations into the efficient cause of malaria, we may say nothing definite is known. Any one who has studied this difficult subject knows the great variety of conditions and soils where this poison is found. Granting that the lowly organism to which the name bacillus malariæ has been given exists in the soils examined by Klebs and Tommasi Crudeli, and has been found in the organs of those who have died of malarial fevers, is this bacillus malariæ to be found in some of the arid soils in the tropics and elsewhere; notoriously fertile in malarial fevers? This much seems certain—up to this date it has been searched for in vain in the malaria producing soil of lower Bengal. We know that the fever-producing rotten granite of Hong Kong and other places is permeated by a fungus; but is it the bacillus malariæ? The question appears to be not in a more advanced stage of proof than the well-known theory of Dr. Salisbury, of Ohio, who maintains that agues are not produced by any poison of telluric origin, but by the introduction into the system of cells and spores, emanating from certain plants called Palmelloe, which are of the lowest vegetable organism. Dr. Salisbury gave the name of "ague plants" to them, and, like Klebs and Tommasi Crudeli, demonstrated their presence in the organs of men affected with malarial fevers. It has always been thought a sufficient answer to Dr. Salisbury's theory that such fevers prevail in regions where his "ague plants" have no existence. It remains to be demonstrated that the theory of Klebs and Tommasi Crudeli is not open to the same objection.

In reference to the increasing distribution of malaria, it is

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worth noting that water is often the vehicle by which malarial poison reaches the system, and that it is often charged with malaria at points distant from the places where it comes to the surface and is used. Thus it happens that soils are often reputed malarious when in reality the unhealthiness is due to the fact just stated.

Possibly, also, the poison, whatever it may be, may be carried by the wind. Various observations seem to show this. Persons living on the lee side of a marsh (with reference to the prevailing winds), suffer more than those to windward of it. The topic is one which seems to call for special investigation at the present time.

"THE PATHOLOGY OF MALARIA."

(From the "London Lancet," February, 1882.)

In the blood of patients suffering from malarial poisoning, M. A. Laveran has found parasitic organisms very definite in form and most remarkable in character. Some were cylindrical curved bodies, colorless except for a blackish spot in the middle, due to pigment granules. On the concave side a fine line could often be traced, which seemed to unite the extremities of the crescent. These bodies presented no movement.

Spherical bodies were also seen, transparent, of about the size of a red blood-corpuscle, containing pigment grains, which in a state of rest were often arranged in a definite circle, but sometimes presented rapid movements, and then lost their regular arrangement. On the border of the sphericles very fine filaments could often be perceived in rapid movement. These were, in length, three or four times the diameter of a red corpuscle. Their number varied. Sometimes three or four were seen around a sphericle, to which they communicated an oscillatory movement, displacing the adjacent red corpuscles. The free extremities of the filaments were slightly reflexed. When at rest the filaments were invisible, on account of their tenuity and perfect transparency. These mo-

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bile filaments appeared finally by becoming detached from the pigmented spherule, continuing, however, to move freely amidst the corpuscles.

There were also bodies of spherical or irregular form, transparent or finely granular, about the hundreth of a micro-millimetre in diameter, containing dark red rounded pigment grains, either regularly arranged at the peraphery or aggregated at some part of the spherule. The bodies and granules are both motionless. These appear to be the ultimate or "cadaveric" stage of those last described. They have no nuclei, and do not tint with carmine, a distinction from the pigmented leuccocytes, with which they have hitherto been confounded. Lastly, spherical elements were met with similar to those already described, bnt much smaller in size, and apparently representing a stage of their development. The animal nature of the mobile pigmented spherule, furnished with filaments, appears indisputable. M. Laveran regards it as a form of animalcule, which exists first in an encysted state, but in the perfect state becomes free in the form of mobile filaments, a mode of developement not uncommon among the lower organisms.

Besides these organisms, the blood of patients suffering from malarial fever contain (1) red corpuscles, which appear to be vaculolated at one or two spots, and contain pigment granules; (2) pigmented leuccocytes; (3) free pigmented granules, possibly proceeding from the destruction of the parasitical organisms.

These elements were first discovered by M. Laveran, a year ago, and since then he has examined the blood from one hundred and ninety-two patients affected with various symptoms of malarial poisoning, intermittent and continued fever and pulustral cachexia, and found the organisms in one hundred and eighty. The disease had been contracted for the most part in different regions of Algeria and Tunis. He convinced himself, by numerous and repeated observations, that these

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organisms are not to be found in the blood of persons suffering from diseases that are not of malarial origin. In most of the cases of malaria in which the examination yielded a negative result, the patient had undergone a course of treatment with quinine, and to this fact the absence of the organism from the blood was probably due. The addition of a minute quantity of a dilute solution of sulphate of quinine to a drop of blood was found at once to destroy the organisms. In all examinations great care was taken to preclude the entrance of any extraneous objects into the drop of blood examined. In general, the parasitic bodies were found in the blood only at certain times—a little before and at the moment of the accession of the fever. In some very obstinate cases the organisms were always present in the blood. They rapidly disappeared under the influence of quinine treatment.

It is conjectured that in the apyrexial intervals the organisms probably sojourn in internal organs, especially the spleen and the liver. After death from malarial diseases pigment granules are found in great numbers in the blood, and especially in the small vessels of the spleen and liver; and they may be, in the most severe cases, so abundant that not only the spleen and liver, but the marrow of bones and even the gray substance of the brain are darkened by their presence. These pigment granules, which may obstruct the capillary vessels, appear to be derived from the parasitic elements, which perish after death and become then unrecognizable.

Dr. Salisbury's claim for the Palmellu was generally abandoned prior to 1880, the date of the Kebs-Crudeli paper. In certain quarters the greatest expectations were aroused by these supposed discoveries. It was willingly accepted by many as the end of the long controversy—as the solution of the problem which so long puzzled scientific inquiry. There were others who could not believe it possible that a specific parasitic germ could cause the almost endless multitude of varying

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phenomena of disease and pathological lesions which are discovered in these so-called malarial diseases.

Dr. Sternberg was however not one of them; for he states that he hoped to confirm the bacillus theory. And although he states that he undertook the investigation without prejudice, it cannot be said that his mind was wholly free from bias toward the bacillus claim.

The result of his very careful experiments compels him to reject the conclusion of Klebs and Crudeli. Indeed these microscopists had themselves seriously shaken confidence in behalf of their theory by admitting that the bacillus was present in localities where intermittent fever did not exist.

The editorial article from the *Medical and Surgical Reporter*, October, 1881, shows the unsettled and doubtful state of the professional mind on the subject. The notion that drainage and cultivation of the soil arrest or eradicate intermittent fever, as it does "milksickness," is clearly overturned. The "malarial germ" suddenly appears where it was fondly hoped it had been forever subdued. Meteorological or climatic conditions and mode of life again become prominent as prime direct factors in the production of the systematic derangements designated "malarial."

The discoveries of M. Loveran, from the *London Lancet* of February, 1882, are headed "*Pathology* of Malaria," and not "*Etiology*" of malaria. This is barely a sign of progress in true science. If a microscopic element happens to be present in the blood of those suffering from the disease in question it is certainly not safe to instantly assume it be the *cause* of the disease. The elements described by M. Loveran are various in kind, and none of them agree in form and character with those described by Klebs and Tommasi Crudeli as the "bacillus malaria." It can no doubt be safely assumed that they are purely pathological elements, as the heading of the article implies.

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The source of these microbes is an interesting question. Are they parasites or not?

There are other well known microscopic elements in the blood—the red and white corpuscles, the hæmatoblasts of Hayem "Compt. Rendup, 1265, 1877," and probably others. These are known to be generated within this system conntless millions continually forming and again disappearing. This takes place under certain favoring conditions. The condition and surroundings are often such as to modify or hinder the formation of the normal cellular elements. Thus we may readily account for the different elements discovered by Klebs, Crudeli and Laveran; and they are, in all probability, pathological and not etiological elements.

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HOT WATER INJECTIONS IN DYSENTERY.

By Joseph Robbins, M. D., Quincy.

On referring to the records of the Adams County Medical Society, I find the following in the minutes of the quarterly meeting held Feb. 11, 1878:

"The members generally participated in a lively discussion of * * * the general and local use of hot water, especially the use of hot water by Dr. Robbins as injections in acute dysentery. The members are earnestly requested to use it and report. * * * * Dr. Robbins suggests the use of *hot* water injections in dysentery and other diseases of the bowels and rectum, to relieve tenesmus and subdue inflammation generally."

During the preceding summer and autumn dysentery had been somewhat rife, and I had had sufficient opportunity to test the efficiency of the hot water treatment to warrant me in urging it most earnestly, as the record says, upon the attention of the society. I had first begun its use in the fall of 1876, having been led to it by my experience of its efficiency in external inflammations, and in inflammations of the mucous surfaces when so situated that it could be brought and kept in contact with the parts involved, but more particularly in cases of acute vaginitis and metritis. It now seems strange to me that I did not stumble upon its applicability in dysentery at least ten years earlier, when I had first used it, in the form of enemeta, and with the effect of securing immediate relief in a case of intense rectal neuralgia, the pain of which partook somewhat of the nature of tenesmic distress, though neither

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diarrhœa nor constipation were present; but it remained for the closer analogies of gynecological experience to suggest it. It has more than once happened to me—and in this I presume my experience is not singular—when from *a priori* reasoning, or from the suggestions of some close analogy, I had deduced or fallen upon a certain plan of treatment as applicable to a class of cases, and had verified its efficacy by applying it, to find on going to the books that others had gone over the same ground before me, and had left abundant record of their work and their conclusions.

Mindful of these experiences, I took occasion, upon determining to bring to your attention something which I believed to be novel as well as important, to make such an examination of the literature of the treatment of dysentery as the material afforded by my own library would permit. On this point I was thus able to consult Jackson, Williams. Moorman (Ky.), Woodson, Maury, Maddin (Tenn.), Read, Gaillard Thomas, Flint, Bennett, Jacobi (N. Y.), Ragland (Tex.), McGuire (Cal.), Liddell, Busey (D. C.), Washington (Ga.), Galentine, Woodruff, Oppelt (O.), Homer (Va.), Hartshorn, T. D. Mitchell, Geo. B. Wood, H. C. Wood, Keating, Dickson (Pa.), Montgomery (Mo.), Hall (Miss.), Whitehead (U. S. A.), Hoeling (U. S. N.), Beaufort and Mead, of our own country; Kerr, Tye, and Jones, of Canada; Courtenay, of Jamaica; Schwalbe, of Costa Rica; Leach, Ellis, Ralfe, Baxter, Churchill, Maclean, Fayrer, and Begbie, of England; Clavel, Brassac, Caspari, Gros, Heubner, Skoda, and Loebel, of Continental Europe; and Jessup, Durant, and Chipperfield, of India.

Only three of these speak of enemeta of which hot water is a constituent: Loebel, who recommends the injection of a scruple of chlorate of potassa in two ounces of hot water (and here the small quantity of the vehicle employed makes it evident that hot water is preferred to cold, or tepid, solely because of its greater solvent power); Heubner, who speaks of

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hot water only in mentioning Loebel's prescription; and Dr. J. W. Maddin, of Tennessee, who comes very near suggesting the importance of heat in enemeta in this disease, but without himself clearly recognizing it, as is shown by the fact that he only makes a parenthetical reference to it. He says: "Discharges * * * composed of mucus, pus, fibrinous flakes, desquamative epithelium, scybala, lotis carneum, a mass of terrible putrescence, which, remaining in the intestinal canal, will continue to decompose and putrefy, contaminating the blood already depraved by disordered function of the process of sanguification. Our duty, then, clearly is to get rid of it —wash it away with large enemas (as hot as can be borne), to which laudanum and bromo-chloralum may be added. This should be repeated every four or six hours, and the patient should pass it off as soon as he desires, in a bed-pan. It will result in great comfort to the patient." Here, as is not infrequently the case, the practice is better, or at least more complete than the theory. The theory is excellent so far as it goes, for I take it that no treatment of dysentery is rational that does not in some way provide for periodically ridding the lower bowel of the irritating mucus which collects there, and which is a chief but not the only factor in the production of tenesmus. To fulfill this plain indication is, as he clearly indicates, Dr. Maddin's main purpose in using the hot water enemeta, incidentally seeking, at the same time, to medicate the surface of the intestinal canal with anodynes, astringents, and disinfectants.

But the hot water is beneficial in other and more direct ways than simply washing away irritating and contaminating accumulations, or serving as a vehicle for anodynes, and astringents. Not only is it the best of all anodynes for the inflamed bowel, but I know of no agent at all comparable to it as directly curative of the essential conditions subsisting in inflammation.

That tenesmus is not wholly dependent upon the presence

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of foreign substances, is shown by the fact that it frequently persists in spite of the use of enemeta, which thoroughly fulfill the indication to wash out the bowel. The condition for its production and maintenance are found in the state of the mucous membrane itself. The acutely sensitive, inflamed surfaces of the bowel lie in apposition, and the enlarged vessels of the membrane, like the vessels of an injected conjunctiva, come to act as foreign substances, and provoke efforts in which the bowel actually tries to expel itself. There is spasmodic contraction of the muscular coat as in vaginismus, or in the spasmodic closure of an inflamed eye.

The hot douche *relieves* tenesmus not only by washing away all irritating substances really foreign, but also by promptly relaxing spasms of the muscular coat, and thus placing the bowel at rest, the first desideratum in the treatment of all inflammations. It *cures* tenes*m*us by relieving and resolving the stasis and effusion of congestion and inflammation upon which it primarily depends.

Since making the examination of the literature of this subject, to which I have referred, the Secretary of the Adams County Medical Society, Dr. E. B. Montgomery, has kindly placed in my hands an article by Dr. John G. Earnest, of Atlanta, Ga. (*College and Clinical Record*, November, 1881), reporting several cases of dysentery treated by the hot rectal douche with the most promptly gratifying results, the first occurring in September, 1878. He was led to its use by precisely the same course of reasoning that had induced me to try it. "It occurred to me," he says, "that injection of *hot water*, if sufficiently prolonged, would relieve the pain and congestion just as it does in an inflamed vagina."

I wish to emphasize, as he has done, the word *hot*. The water should be not simply warm, but as hot as can be borne by the immersed hand.

The directions that I am in the habit of giving for its use

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in ordinary cases, are, to pump it gently into the bowel with a rubber syringe until the point of comfortable distension has been reached, to repeat this as often as it is expelled until the tenesmus is relieved, and when relieved to repeat it as often as it recurs.

In many cases this will answer perfectly, so far as the local treatment is concerned, (and often to the exclusion of all other treatment), but in more severe cases it is necessary to provide for more prolonged contact with the inflamed membrane, of water whose temperature is well kept up. This can be done by attaching a double catheter to the nozzle of the syringe—through the intervention of a short piece of rubber tubing—or, if a double catheter is not at hand, the means for a return current can be improvised by the method of Dr. Earnest, who injected the water through a No. 10 flexible catheter, passed up to the sigmoid flexure, and permitted it to escape through a second catheter introduced a little beyond the sphincter ani. By making the injection with a fountain or syphon syringe, and by attaching to the efferent catheter a piece of rubber tubing long enough to convey the return flow into a receptacle by the bedside, the douche can be kept up *ad libitum* without fatigue to the attendants and without soiling the bed. It is well, however, to further guard against the latter by placing underneath the patient a sheet, or other cloth, thickly folded, to absorb the water should any trickle away from the anus, as sometimes occurs if the bowel becomes much distended. A certain degree of distension, enough to separate the inflamed surfaces, is desirable, and the return current should not, therefore, be permitted to flow until so much is secured.

If the tenesmus has been great and long continued, the expulsive efforts may persist after the introduction of the hot water, but it will be only for a short time; the bowel soon becomes entirely tolerant of its presence, and the transition from almost unendurable distress to complete comfort is some-

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times so great and sudden, that without much exaggeration one might fairly liken it to the passage from the agony of labor to the painless quiet which follows its conclusion.

A return current being provided for, the douche may safely be protracted for any length of time, and should be protracted until tenesmus ceases. Dr. Earnest found it necessary to continue it in some of his cases for thirty-five minutes. I have not had occasion to continue it so long, but should the conditions demand it, I should not hesitate to keep it up for hours.

The presentation of this matter entails no necessity of here discussing either the etiology or the general treatment of dysentery; because however we may theorize about the causation of the disease, or whatever may be our favorite plan of treatment, we can resort to the hot douche without first yielding our views or abandoning our methods. It interferes with no other mode of treatment except in so far as it demonstrates, as it often does, that no other treatment is necessary. Where it does not do that, it still secures—safely and without interfering in the least with the action of other remedies—rest for the inflamed bowel, and immunity from pain, to a degree not attained by any other agent within my knowledge. The importance of a remedial measure that will do this can scarcely be overestimated when we bear in mind that the mortality in dysentery is, as a rule, in a direct ratio to the frequency of the tenesmic discharges.

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HYDROCELE IN THE FEMALE.

By E. A. Ingersoll, M. D., Canton.

The extreme rarity of this affection renders it advisable that every case coming under the observation of physicians should be reported. For this reason I offer mine as a contribution to our meagre literature in this departmeot.

In a more extended article on this same subject by William C. Wile, M. D., which appeared in the "American Journal of Obstetrics," July, 1881, he quotes from Thomas on Diseases of Women, giving the descriptive and pathological anatomy of hydrocele in the female, and adds: "I understand too late to consult the work that Goodell mentions in his Lessons on Gynecology." As there is so little reference made to the subject in our text-books, I take the liberty of quoting the following from Goodell: "This affection is analagous to the encysted hydrocele of the cord in the male, and consists of a collection of fluid in a serous sac around the round ligament. It is due, as in the male, to an imperfect obliteration of the peritoneal prolongation which invests the round ligament from each internal ring through the inguinal canal to the upper third of each labium major. This obliteration begins at the two ends, the ring and the labium, and, if it is incomplete, a sac is formed by the unobliterated space. Fluid collecting in this sac forms an oval tumor, which, as it occupies the site of an inguinal hernia, greatly resembles it. The fluctuation, the dullness on percussion, the translucency, and the history of the tumor, should generally discover its character."

As before stated, an interesting article on this subject by Wm.

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C. Wile, M. D., appeared in the "American Journal of Obstetrics," July, 1881, from which I wish to make a few quotations, and also to present an account of a similar case under my own care, a report of which appeared in the "American Journal of Obstetrics," April, 1882. As regards the history of such cases, Dr. Wile writes: "A very exhaustive search by Dr. Horatio R. Bigelow, of Washington, D. C., through the large library of the Surgeon General's office, reveals the following testimony: 'I have been through all the old Latin, French, and German literature, from the fourteenth century to the present time, and there is absolntely nothing. Out of all the current medical literature of the world for 1879, there was only one paper published on Hydrocele in the Female.'"

Dr. Wile gives a report of two cases under his care, of which I will give a short synopsis. After the occurrence of his second case he addressed fifty letters to the most prominent gentlemen in the gynecological and surgical branches of the profession, as a result of which the following facts were ascertained: first, the rarity of the trouble; second, the fact that many physicians do not even know of the existence of the malady; and, third, of securing reports of a number of cases which would in all probability have perished. Among the fifty addressed on the subject, the following have had or have seen cases: Professors Fordyce Barker, Wm. Goodell, Wm. H. Byford, J. H. Etheridge, and Dr. Frederick Dennis. Among those who have not seen a case, I will mention but a few of the more prominent: Drs. Wm. T. Lusk, Paul F. Munde, T. G. Thomas, Edward S. Dunster, S. D. Gross, Robert Batte.

Of the cases reported up to the time of Dr. Wile's article, they were all treated either by incisions and drainage or injection of tr. iodini, or else completely laying open the sac and packing the wound with oakum. Thomas, Scanzoni, and Schröder are the only authors in whose writings Dr. Wile found any mention of the disease. He quotes anatomy and pathology

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from Thomas, and I also quote from Goodell, who mentions the disease in his Lessons on Gynecology.

I will now give a short synopsis of Dr. Wile's two cases: Case first. Mrs. G., æt. 57, married. After a slow recovery from a confinement in which she had been delivered with instruments of a 11½ pound boy, she noticed an enlargement of the left labium. It gave her no pain, but she consulted a physician, who pronounced it hernia due to instrumental delivery, and advised a truss should it increase in size. After the delivery of another child it enlarged so rapidly that she again consulted the physician, who informed her that she had a very dangerous kind of hernia, and that she must have a truss applied. Though he failed to reduce the supposed hernia, he said the truss would soon, by its constant pressure, force it back. This truss she wore for fourteen or fifteen months, but the enlargement still increased, and after another consultation with the same physician, was informed that an operation would be necessary. She still wore the truss when presenting herself for examination to Dr. Wile, and his description is as follows: "The tumor extended on either side of the pad of the truss. On removing the instrument, I found a soft fluctuating tumor in the left labia about the size of a very large hen's egg. It resembled nothing I had ever seen, and I was somewhat puzzled as to diagnosis. I was quite satisfied it was not a hernia, and requested her to allow me to introduce a small hypodermic needle. She consented, and I at once plunged the needle into the most prominent portion of the tumor, and withdrawing the piston of the syringe, the barrel was soon filled with a serous fluid very strongly resembling the fluid of a hydrocele in the male. I then introduced the fine needle of the aspirator, and withdrew 5½ ounces of straw-colored serum. I then injected tr. iodini ʒ ss., which caused so much pain that a hypodermic injection of morphia was necessary. An active inflammation was set up within twenty-four hours, which

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gradually subsided in the course of the next six days, and in two weeks she was apparently as well as she ever was in her life."

His second case is described as follows: "A tumor situated in the right labium as large as a turkey's egg, completely occluding the vagina with a soft fluid feel, non-reducible, painless, and unirritable. On holding the candle behind it, its translucency became at once apparent. I introduced a hypodermic needle, and withdrew a syringe full of a clear limpid fluid. My diagnosis was hydrocele, and I advised an immediate operation, but the patient being averse to it, I used bimanual pressure, and in a few moments completely evacuated the contents of the sac. Then I thoroughly kneaded the surfaces with my fingers for the purpose of exciting sufficient inflammation to destroy the sac or produce adhesion of its walls. Some few days afterward suppurative action took place, and the sac was filled with pus. This I treated by laying the sac open from base to apex, and dissecting up as much of the sac as was possible, packing the wound full of oakum. The wound was dressed and packed every day for two weeks, when the packing was left out, and in a few days the wound was entirely healed."

So far this is but a brief synopsis of Dr. Wile's most interesting article, and I will now proceed with a report of my own case:

Patient, married, æt. 22; two months pregnant. For about two years she had noticed an enlargement of the right labium major. It first appeared near the menstrual period, after unusual exertion, and a cold contracted at that time. It had troubled her at times since, and occasionally had been a little painful; but more inconvenience was felt from a sense of weight and fulness in the part.

She had once consulted a surgeon; but, as she was unwilling to have an examination, he gave no positive opinion, but

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thought it probably a hernia. About two weeks before presenting herself to me for consultation, this enlargement increased; and, though she occasionally had slight pains from it, the greatest trouble was the inconvenience in sitting, and her remark was: "It is just filled with water." On examination, Nov. 13th, 1881, I found a tumor about an inch and a half (four centimetres) in length, with no redness or induration surrounding it, and filled with clear serum, or some translucent fluid. On the posterior wall of the sac could be distinguised something extending nearly the whole length of the tumor, increasing in diameter from above downwards, and terminating in a bulbous extremity.

Neither fluid nor other contents could be returned into the abdomen.

I had never seen a similar case; and I should have been troubled to diagnose it, had it not been for the case reported by Dr. Wile, already referred to. With this aid in diagnosis, I felt sure that I had a case of encysted hydrocele of the round ligament; but as I wished time to consider and to re-read the article above quoted, I prescribd an anodyne ointment, and told the patient to report in about two weeks. In a few days (Nov. 22d) I was sent for, and found tumor enlarged to double its former size, and still presenting the same translucent appearance, with no surrounding redness or induration. I considered my diagnosis confirmed, and prepared to operate. Owing to my patient's pregnant condition, and fearing an injection of tr. iodine might cause much pain, as well as being uncertain as to the amount of inflammation it might give rise to, I operated slightly differently from the method chosen in the cases so far reported.

I inserted the point of my curved bistoury into the most dependent portion of the tumor, so as to make an incision about one-eigth of an inch in length, and allowed the contents to flow out. About two and one-half ounces of perfectly clear

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serum passed. Now this cord-like projection before spoken of could be rolled under the finger, and traced distinctly to the upper border of the labium.

After evacuating all the serum, without compression being made, I injected the sac with a dilute solution of carbolic acid, about one part in fifty, and applied a compress of medicated cotton, which the patient was directed to change as often as needed. The next day I introduced a bistoury through the same incision, and, perhaps, a half drachm of serum was discharged, and I again injected the sol. acid. carbol. The patient experienced less pain than before, having had no fever since the operation, and had taken no medicine whatever. I repeated the injection twice more, on the 24th and 26th. On the last two occasions, I could obtain but a few drops of fluid from the sac. The right labium was still larger than the left, though no difference was noted unless the parts were distended. What I had diagnosed as the round ligament had decreased, till it felt like a small-sized cord under my fingers. I discharged my patient on the fifth day after operation, saying I would call and examine the case in about two weeks. At that time (Dec. 10th), I found there had been no refilling of the sac, my patient had been able to do her ordinary work, and I congratulated myself on my successful operation. On Dec. 14th, the lady presented herself again at my office, and said it had pained her somewhat for a day or so, and had slightly enlarged. On examination, I thought the sac contained about a half drachm of fluid; and, supposing that it would increase, I agreed to operate in two days. On conferring with Dr. Robert Boal, of Peoria, Ill., in regard to the case, his judgment coincided with mine as to the use of a seaton, and I went Dec. 16, prepared to operate in this manner. However, I found my patient much better, and the sac decreased in size, apparently containing not more than three or four drops of serum. I did not operate, but applied the following solution, on compresses of medicated

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cotton: ℞ Ammon. muriat., ʒ ss.; Spts. vini, fl. ℥ iij.; Aquæ, q.s. ad fl. ℥ vi. M.

Jan. 9th, '82.—I again examined the patient. She used the lotion only two or three days. There has been no refilling of the sac. The right labium is still somewhat the larger, and of slightly bluish tinge.

Feb. 11th, '82.—Condition of patient same as when last reported.

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PHENIC ACID IN CANCER.

E. WYLLYS ANDREWS, M. D., CHICAGO.

The most eligible antizymotic or "internal antiseptic" by which bacteria or other micro-organisms could be destroyed, within the living tissues, has generally been believed to be carbolic acid administered either singly or with iodine, bromine, arsenic or ammonia.

Pasteur, Huter, Albrecht and Koch, by their striking discoveries in germ pathology and practical successes in applying these discoveries in practice, have given medical thought and experiment a direction with vague and expansive possibilities in theraputics before it—too vague and too comprehensive in fact to let us hope that one-half of the hopes of antiseptic medicine await realization. Yet these theories follow fairly and seem to borrow much plausibility from the wonderful revelations of cellular pathology, and are now receiving an amount of consideration and experimentation, which places them on trial at the present day.

The idea of using carbolic acid internally in cases of general putrid poisoning was too obvious a deduction from its well-known external indications long to escape trial, and has, in fact, over and over again, been tested and recommended.

In the heat of infectious fever it is well known that carbolic acid given internally in large doses will arrest pyrexia, as some would contend, by its benumbing and sedative effect rather than by acting as a germ-killer in the system. For some years also the "abortive" treatment of buboes, of threatened abscesses and of erysipelas by parenchymatous carbolized injections has

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been extensively practiced and variously approved by surgeons. These applications are not new. On the other hand, the practice of treating cancers or malignant sarcomata by these agents with a view to aborting and eliminating their germs from the system is a very recent and, in no sense, an established method. I wish to call attention to the somewhat extraordinary claims of success made for this kind of systemic cancer specific, and to report my own observations upon a case in progress of cure from alleged malignant disease by its use.

The present attitude of the medical profession, and to some extent that of the public, is apparently one of expectancy toward the advent of internal medicine having power to control or restrain the development of epithetismata in the body. In our present knowledge of cell life it is not illogical to suppose the existence of an agent able to do this.

(1.) By its catalytic power, tearing down and eliminating malignant as well as other new deposits.

(2.) By its germicidal power, by its presence in the fluids proving deadly to all forms of microscopic (and hypothetical) organisms.

(3) By some unknown mode of action. The first mode of operation would seem to explain the supposed value of Atlee's arsenic treatment and the sulphur and Chios turpentine compound of Clay. Little reliance is put upon alterant treatment by the general profession.

Carbolic acid internally administered meets the second indication, *i. e.*, a general antiseptic. Aside from any empirical evidence which may yet be produced, its value rests upon the unproved hypothesis that carcinoma is a disease of external origin, whose germs are imported into the tissues as smut invades corn. No great amount of credence may be given to this somewhat extended application of the germ theory of diseases, while on the other side it is equally impossible to disprove it conclusively. Meantime the remedy is being tried and rather

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extravagantly praised by some, while others report it valueless.

Dr. Dèclat, a former associate with Pasteur in his investigations for the French government, has particularly claimed to have secured wonderful cures by this method, and I wish to state briefly the nature of these cases so far as observed in Chicago—cases which may throw light upon others reported by the same man in other cities.

In order safely to employ phenol internally it is claimed that absolute purity is essential. The carbolic or phenic acid (*acid phénique*) as sold is well known to be an impure compound substance. Dr. Squibb admits that not more than fifty per cent. of the best samples are pure carbolic acid, the remainder consisting of cresyllic, zylic and rosaccic acids and rosaniline with some oily impurities. Pasteur states that only six ounces out of two pounds of American acid proved upon analysis to be pure phenol.

It is claimed, therefore, that all experiments with the ordinary acid are unreliable and dangerous, that the so-called carbolic acid poisoning is really due to impurities, and that when chemically refined very large doses may be given of this agent, 1 c.c. to 4 c.c. being ingested in the twenty-four hours.

As to how much trust is to be reposed in these statements, although backed up by reports of cases (See Shrady, *Medical Record*, May 13, 1882), I do not wish to make a judgment now. It is somewhat surprising and significant to find that these preparations are proprietary medicines made in New York, and having the mark of the "Dèclat Manufacturing Co." upon the label. I do not assert that this gentleman is at work advertising and selling a particular line of goods; but it must be admitted that his attitude is rather that of an advocate than of an impartial inquirer.

The most essential part of this subject bears upon the evidence for or against the value of the remedy in the direction

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claimed, cancer. In his lectures and published writings this physician has substantiated his claims by a number of signal cures. Prominently it may be mentioned that phenic acid is said by its advocates to be able to cure malignant tumors heretofore considered hopeless. A case of what Dèclat called epithelioma of the lower lip, he recently exhibited in Chicago, and, upon opportunity being offered, I examined the patient with the following results: Upon the inner surface of the lower lip, *close to the gums*, there appeared a small ulceration, which apparently was doing well and was nearly healed. There is no induration nor is the sore upon the border of the lip in the usual location of epithelioma.

From all that this examination could discover, there might have been a cancerous growth, which had wholly or nearly disappeared. I could not say this is impossible, but there is further evidence upon the point which I will mention. A competent surgeon of the city saw the case at or near the time of the commencement of treatment with the phenic acid, and this gentleman positively asserts that no induration was present, that the sore consisted of an indolent ulceration upon the mucous membrane within the mouth, apparently kept from healing by a large mass of projecting tartar, which is now removed, and that it was not malignant. I regard the case as a wholly fictitious one and worthless as evidence. The physician under whose immediate care the patient was placed mistook the nature of the trouble, and Dèclat, in taking his unreserved statement as to the real disease and exploiting the case as one of cure by his remedies does not show that balance of judgment, which inspires confidence in scientific minds. That he means to be candid, I do not question, but we have seen too much already in medicine of the abandonment of inductive logic.

Scientific guess-work may add brilliancy to a popular lecture, but it does not help to put medicine in the list of exact

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sciences. More than this, the exposure of a case thus cited, under my own eyes, has made me skeptical as to the value of all the others which are alleged to have been made. The same looseness which allows one such blunder, though wholly unintentional, may allow others, perhaps more glaring, to occur.

I say this with all deference to Dr. Dèclat, who is an educated physician. It would seem that in putting forth his highly-colored statements and launching his balloon-like conclusions he may be adding more to the sale of Dèclat phenic acid preparations than to the real advancement of medical knowledge.

DISCUSSION.

Discussed by Drs. N. S. Davis, of Chicago; H. H. Littlefield, of Beardstown; L. H. A. Nickerson, of Quincy; G. V. Black, of Jacksonville.

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ON MUSCULAR PARALYSIS
ESPECIALLY THAT KIND PECULIAR TO CHILDREN.

By C. Du Hadway, M. D., Jerseyville.

Attention was first directed to this kind of paralysis by Underwood, Marshall Hall and Kennedy.

It is almost synonymous with myelitis, and it is a frequent source of shriveled, half-dead limbs, club feet and other deformities.

Mr. Wm. Adams, who has perhaps had better opportunities of acquainting himself with the history of muscular paralysis, and whose account of it is more to the point than that of any other with whom I am acquainted, says: "The most trustworthy characteristics are: 1st. The paralysis is usually partial, single muscles or groups of muscles only being affected. 2nd. The sensation in the parts paralyzed being perfect. 3rd. None of the thoracic or abdominal viscera are usually distinctly implicated. 4th. Paralyzed muscles are in no case found rigid, but always in a soft, flabby condition. 5th. This paralysis is neither accompanied nor preceeded by head symptoms.

This disease is generally ushered in suddenly and unexpectedly. The causes are many. Teething of infants, or grafted upon some febrile disorder, as gastro-entiritis, scarlet fever, measles, whooping cough; but more especially the result of diphtheria and spinal meningitis.

As a rule the paralysis occupies a wider range at first than it does afterwards. It is not uncommon for all the limbs to

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be attacked at once. Recovery begins to take place, and muscles or groups of muscles are relieved until finally all may be relieved except one limb, or one group of muscles, or, even one muscle. It will be found also that it is usual for the disorder to give way in the arms before it does in the legs, and in certain muscles oftener than in others. As a rule the disease does not mount high enough to paralyze muscles whose nerves are given off above the true limits of the spinal cord.

There is no loss of sensation in infantile paralysis. On the contrary, the affected parts appear to be highly sensitive to the touch when the paralysis is recent.

In some cases this high degree of sensibility continues for weeks. When this is the case, if a leg be effected and the paralysis incomplete, the existence of hip joint disease may be suspected.

When such is the case the child will bear all its weight upon the healthy leg, and the foot of the affected leg will turn in when walking. The patient stands with the toes of the affected limb resting on the dorsum of the healthy foot.

Mr. Adams thinks the peculiarities of infantile paralysis point to special pathology which has not yet been made out satisfactorily. He thinks there is a wide range of difference in the paralysis of infants and that of adults. It seems to me, however, that these peculiarities, instead of showing a difference, show a close analogy to, if not an actual identity with, the paralysis resulting from spinal congestion.

In spinal paralysis, the paralysis is partial. In infantile paralysis it is the same.

In both cases sensation is exaggerated rather than dulled in the paralyzed parts.

In both cases the bladder and bowels are subservient to the will. In both cases the muscles are soft and not contracted. They are limber and not rrgid.

In both cases recovery is the rule rather than the exception.

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In either case the head symptoms are exceptional phenomena at any time.

Morbid anatomy itself discloses the fact that they are identical.

In the four cases reported by M. M. Barthez & Relliet, Dr. Fliess and Mr. Adams, all four most competent observers, they found no traces of organic lesion either in the spinal cord, brain or nerves.

The evidence supplied in those four cases is purely negative. If we take the observations of Provost, Vulpian, L. Clark and Joff-Roy, they have led us to the conclusion that anatomical changes in both are the most characteristic found in the gray matter of the anterior cornu of the cord.

The duration of muscular paralysis is variable. It may be of short duration or may continue for years.

It is generally supposed that unless recovery takes place in a few months the paralysis will be persistant through life.

I have seen cases where they improve to a very useful extent several years after the attack. To the truth of this my own experience bears ample testimony.

I further believe that if the paralyzed mucles retain their electro-contractility and electro-sensibility, and show that they have not passed into a state of fatty degeneration, which they are likely to do, as there seems to be a tendency in that direction, there scarcely seems to be a limit to the time in which improvement, or even complete recovery is possible.

According to Adams, the muscles most frequently affected are: 1st, those of the anterior part of the leg, forming the extensors of the toes and flexors of the foot; 2nd, the extensors and supinators of the hand—these muscles always being affected together; 3rd, the extensors of the leg with the muscles of the foot.

When single muscles are affected, those most likely to suffer

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are the extensor longus digitorum of the *toes*, tibialis-anticus, the deltoid and the sterno-mastoid.

This disorder produces deformities which are most frequently met with in the feet and legs, because they are the parts most frequently affected.

The particular kind of deformity varies, according to the muscles involved. I think the most frequent is talipes *Equinus*, equino-varus, equino-valgus and calcaneo-valgus.

Sir James Paget is of the opinion that the deformity is due to atrophy of certain muscles from paralysis.

For example, if the anterior part of the leg is paralyzed the anterior part of the foot drops. If the posterior part of the leg is paralyzed the heel drops, and the toes turn up; so if the muscles of one side of the leg are paralyzed, the foot turns to the opposite direction. The form of paralysis described here is certainly the most common, and the other forms are so uncommon as to be little more than exceptional.

As to treatment, various remedies and various mechanical appliances have been recommended.

Some of the medicines that seem to occupy a high place in the treatment of this disorder are quinia, arsenic, strychnia, phosphorus and nux vomica. These seem to constitute the chief course of treatment as constitutional measures.

Topical applications, such as bathing and friction, also have been recommended, all of which I believe to be indispensable.

The physician will make such selection as in his judgment is indicated.

The treatment of deformities, especially club feet, resulting from paralysis, is a subject of practical interest and much difficulty, as the probability of benefiting the patient by an operation can scarcely be entertained.

The very nature of the disease itself contra-indicates surgical interference generally. But from the apparently hopeless and incurable cases the most striking and most valuable results

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have been attained by a combination of surgical and mechani cal treatment. In all cases the treatment will principally consist in the removal of deformities by tenotomy and mechanical means.

In all, or nearly all of these cases ample compensation will be the result.

It is certain that very satisfactory results are obtained aside from tenotomy and mechanical means, but with the view of bringing back lost power in paralyzed muscles—electricity and an apparatus of some kind to call those half-dead muscles into use are indispensable.

Every day I am more and more convinced that muscles which I once looked upon as hopelessly paralyzed are being resuscitated by these means.

The apparatus which I would earnestly recommend is one invented by myself, a model of which I have here for inspection. Anyone will see at a *glance* the utility of such an instrument in the resuscitation of paralyzed muscles.

Discussed by Dr. N. S. Davis, of Chicago.

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ON BOVINE DISEASE.

By J. A. Wagner, M. D., Quincy.

It is possible that the disease about to be described may be as old as the animal affected by it, but to me, and perhaps many physicians in this section of the world, it is comparatively new and but little understood.

Among the young cattle and calves on the plains of Wyoming and Dakota is noticed an affection which, in herders' parlance, is called cow-itch; everything relating to the craft is thus designated by the prefix cow, excepting a mule or a Mexican.

The cow-itch, or bovine disease, is in appearance, while affecting the calf, a squamous affection, something similar to pityriasis capitis, though greatly intensified, the exfoliation often aggregating half an inch in depth upon the skin, and sometimes to the full length of the hair, upon the head, neck, and shoulders. It is never noticed elsewhere upon the body of the calf, nor does it seem to be with them a constitutional affection, as death is seldom if ever caused by it.

It is beyond a doubt contagious, requiring actual contact to transmit it from the animal to man, which is usually done simply by chafing, rubbing, or scratching with the finger-nails. The stage of incubation is from a few days to a week or more, and the period at which it becomes constitutional depends upon the number or size of the points of inoculation. In man it seems to be at first of an eczematous, vesicular eruption, the vesicles finally assuming a pustular character as the disease progresses, and the constitution becomes rapidly and

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seriously impressed, as is shown by the deranged digestive system, loss of appetite, headache, flushed face, rapid but weak pulse, continuous fever, pain in back and limbs, and enlargement of the glands of the neck and throat. Such is the case even in robust persons with less than a dozen points of inoculation.

The vesicles, at first quite small, increase in the course of about four days to nearly a quarter of an inch in diameter across the base. They are balloon-shaped, and when they burst let out a thin fluid or lymph, light yellow in color, which is capable of spreading the disease in the direction in which it flows. Other vesicles immediately appear in a circular form around the base of the first, and go through the stages similar to the parent vesicle, which in the meantime, like an open ulcer, secretes a thin, yellowish-white pus. Each cluster of vesicles forms a rosette or pyramid, slightly elevated above the surrounding integument, and resembles, before its rupture, freshly-capped honeycomb. The points of inoculation are encircled by a bright red ring, which fades in color as it recedes from the seat of inflammatory action. The tissues beneath and surrounding the base of each rosette are quite dense from the intense congestion and infiltration, and the itching is almost intolerable.

Not finding anything in the text-books upon this affection, I was at first greatly puzzled as to what to do for it, being ignorant of the gravity it might assume. Of course I assured my patient that it was not at all serious, but in less than forty-eight hours I realized my blunder, as did my patient, although he had never heard of any one dying of the disease in the west, and was feeling anything but comfortable both in mind and body. The history for about ten days before I saw him is as follows: He was fond of pets, and remembered well of playing with a sucking calf, simply by holding it around the neck with his left arm and patting its head with his right hand for a few minutes, and in a few hours after-

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wards of rubbing his left arm a little below the elbow. This itching of the same place on that arm occurred several times for a day or two, and then another upon his neck a little below and behind the right ear, which was likewise rubbed or scratched with the right hand. Then a vesicle made its appearance in the centre of a bright red spot. He was at this time, November, 1880, en route to Chicago with a train of cattle, and while being shaved at Council Bluffs, Iowa, the barber told him it was ringworm, and to touch it with tr. iodine, which he did. After reaching Chicago a second barber prescribed the same. He then came home on a visit to Quincy, and awakened me at midnight to get relief from the terrible itching and learn if it was at all dangerous. I began to treat him the next morning, first giving him a purge of I. C. C. P., followed by six-grain doses of quinine in capsules before each meal. Having at hand two kinds of acids—concentrated carbolic and fuming nitric—I used the first upon his neck, the other upon the arm. About this time there appeared four more small points of inoculation, one on the chin, one over the larynx, the others on the left arm several inches below the first point, which, like the first upon the neck, had enlarged to the size of a silver quarter of a dollar. The escars both looked alike, but did not feel so. After a few minutes of intense pain those on his neck became somewhat benumbed, as he said, and the swelling did not increase much more. Those of the arm, cauterized by the nitric acid, remained sore for many hours, and the swelling was enormous. I began to think erysipelas had set in, from the intensity of the inflammation of the entire forearm. The cauterization did not have to be repeated, except at some small points around the large sores that had not been done thoroughly, and had been subsequently inoculated by the discharges. I used the carbolic acid when necessary, as it had proved most beneficial and less painful. His appetite failed, and I ordered large doses of the tr.

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cinch. co. before each meal, followed one hour after by fifteen drop doses of tr. ferri chloridi in an ounce of California sweet wine, which was kept up until the disappearance of the fever, the cessation of the discharge from the sores, and their complete cicatrization. There was no discharge from the nasal passages at any time, but slight congestion of the conjunctiva, hoarseness, sore throat, enlargement of the tonsils and other glands about the neck and axilla. As his throat troubled him I ordered liquid food, principally unskimmed milk, of which he was quite fond.

I have written this article, not so much to inform as to ask information from any one who may have studied it sufficiently to know to what order or classification nosologically it has or must be assigned.

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REPORT ON NECROLOGY.

ALEXANDER FISHER, M. D.

Was born in Lancaster, Worcester County, Mass., August 12, 1804. After securing an academic education, he began the study of medicine in 1831 under the private instruction of Geo. W. Richards, M. D, of Camillus, N. Y. He entered the College of Physicians and Surgeons at Fairfield, Herkimer County, N. Y., from which institution he received the degree of doctor of medicine in 1834, and afterwards practiced a short time in partnership with his preceptor, Dr. Richards. In June, 1835, he removed to Western Star, Summit County, Ohio, where he was engaged in active practice until the autumn of 1849. The winter of 1849–50 he spent in Philadelphia in professional study, and in the spring of 1850 he resumed practice in Akron, Ohio. In 1854 failing health obliged him, temporarily, to suspend his professional work. Having regained his health he removed in the following year to Chicago, where he continued faithfully to practice his profession until the infirmities of age compelled him, not long before death, to relinquish its labors. Dr. Fisher was modest and unobtrusive in his manners, but gave to each recurring day as much patient labor as was necessary for the faithful performance of its duties. He dealt honestly with his patients; he always exhibited a nice sense of professional honor, and in every walk of life he was a worthy citizen, and enjoyed the respect and esteem of all who knew him. Though always engaged in general practice he gave especial attention to surgery, and among his operations of interest may be mentioned a case of ligation of the external iliac artery published

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in the *American Journal of Medical Science* for April, 1856. He served for a time as volunteer surgeon in the war of the rebellion; he was emeritus professor of surgery in the Woman's Hospital Medical College, Chicago; member of the American Medical Association; member of the Illinois State Medical Society; member and president of the Chicago Medical Society, and also of the Society of Physicians and Surgeons of Chicago. His death occurred February 15, 1882. Though twice married, he died a widower, leaving two sons in business in Colorado. Two step-daughters—children of his last wife by a former marriage—also survive him, one being the wife of Rev. Bishop Cheney and the other of Prof. James Nevins Hyde, both of Chicago.

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IS CROUPOUS PNEUMONIA A LOCAL DISEASE, OR A GENERAL ZYMOTIC FEVER?

By E. P. Cook, M. D., Mendota.

HISTORY.

Pneumonia was known to the earliest practitioners of medicine.

The simple power of observation, unaided by scientific classification and unassisted by the statistics of co-laborers, was sufficient to enable those men to *imperfectly* isolate a disease, which in certain individuals and under certain circumstances had such marked local manifestations. Occurring frequently, and often proving fatal, it is no surprise that they sought to describe it. The merits of their description consist chiefly in furnishing data, by which to identify the disease and afford us knowledge of its long life and endemic character.

With Hippocrates and his Greek and Roman successors, "Peri-pneumonia" and "Pleuritis," consisted about all that was known of this class of diseases, nor did they understand the typical course of a pneumonia, and certainly in their want of anatomical knowledge they could not avoid confusing pleuritic with peri-pneumonia. Just what pathological conditions they meant to describe by pleuritic and peri-pneumonia, it would be difficult to say, certainly not an inflammation of the pleura as we understand it, nor an effusion of a coagulable material into the alveol of the lungs. They could not and did not distinguish between collapse of the lung due to effusion into the pleural cavity and a pneumonia with extensive engorgement. In the autopsies of cases supposed to have died of pleu-

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ritis, though the pleura remained unaffected and one lung only was diseased, the primary disease was regarded as pleuritic, and the lung disease explained as a result of defective respiration. If any distinctions existed which would separate the two diseases, they were the unwritten convictions in reference to the violent pain and the character of the sputa. Passing on from these unprofitable glances into the state of medical science, from the time of Hippocrates and through the subsequent centuries, we arrive at the period when medicine sought a new basis in the physical sciences, on which to erect a more durable and salutary structure. By the aid of physical diagnosia, and by the assistance of a more thorough anatomical knowledge, and with the help of the microscope, we are able to make that disposition of facts, and that interpretation of them which is the excellence of the scientific method, pleuritis and peripneumonia are no longer confused or identical, and pneumonia itself stands in a new relation, being explained by quite a different pathology.

ETIOLOGY.

Croupous pneumonia, if the term "croupous" be allowable, is a very widely distributed disease. The advocates of the zymotic character of the affection, have been exceedingly fortunate in the selection of a term—so long has the controversy as to the identity of true croup and diphtheria raged, and now appearing to be settled against the dualist notion. The use of this term croupous, irritably forces the mind along the line of this controversy and at once suggests the analogy of the membranous affections of the respiratory passages. Right here, it is necessary to guard against an unfortunate tendency.

The peculiarity of the English mind is conservatism; excessive speculation and radicalism are the characteristics of the German. The French on the contrary, wrapped up in national vanity, have resisted alike the results of English caution and German speculation. Darwin was content to work with his

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facts silently and powerfully. Haeckel with fewer facts reached wider generalizations, while the French from a veneration of Cuvier, have been almost wholly uninfluenced by the theory of evolution. The Germans were more enthusiastic than Lister over the antiseptic method, and more wild over the German theory than Tyndall and Dr. Budd. And now again we have a croupous pneumonia sweeping gracefully toward the germ theory as a final resting place. Rokitanski has drawn a parallel between croupous pneumonia and laryngeal croup. Jürgensen has asserted that "croupous pneumonia" is a constitutional disease, and is not dependent upon a local cause. The pulmonary inflammation is the chief symptom, and the morbid pneumonia are not due to the local affection. The hypothesis of a morbific cause is indispensable, croupous pneumonia belongs to the group of infectious diseases.

Dr. Flint believes pneumonia to be a constitutional disease, and tries to define the morbific cause as "pneumonia fever." These leading men have now many adherents, and croupous pneumonia bids fair to take a settled place among the constitutional diseases having an undemonstrable specific poison as its cause. It is of course impossible at the present moment to isolate this morbific agent, but accused and brought to the bar of medical inquiry, it is placed in the position of the criminal, who received the odious verdict of a Scotch jury, "not proven."

To present some of the arguments in favor of the proposition, pneumonia is an infectious disease, and on the other hand to state the objections which a venerable medical conservatism oppose, is the duty of the present hour. By the advocates of the infectious character of croupous pneumonia, it is argued that it cannot be produced artificially.

The *Lancet* of September 1, 1877, contains an article in relation to Heidenheim's experiments. These were undertaken under the guidance of Cohnheim. Their object was to determine whether croupous pneumonia could be excited by a non-

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specific leison. The animal was compelled to breathe hot air through a canula introduced into the trachea. The experiments lasted fifteen to thirty minutes; after a time, varying from three to seven days, the animal was killed. In every case the lungs were found to be perfectly healthy. The experiments were now varied, the animal being compelled to breathe in cold air from a tube passed through a refrigerator. Again the lungs of the animal were found to be healthy. Once more Heidenheim varied his method; the animal being compelled to breathe air artificially heated and cooled atmosphere, for an interval of fifteen minutes each, alternately. No pulmonary inflammation followed.

It was ascertained by an ingenious use of thermometers that an artificially heated and cooled atmosphere rapidly acquired the temperature of the body in passing down the trachea. So that under such conditions to say the least, the deeper parts of the lungs are never exposed to the action of very hot or very cold air.

These were the results obtained by the introduction of *dry* air.

A very marked difference followed the introduction of *moist* air, at a temperature of 130° fahr.

The pathological process now set up was one resembling that of catarrhal pneumonia. Other gases, such as chlorine, could not be used, for they were rapidly fatal, or if diluted had no morbific effect upon the lungs.

Heidenheim concluded, from these experiments, that croupous pneumonia could not be excited by irritation of the respiratory passages.

If we are to regard as essential features of coupous pneumonia that one entire lobe or part of a lobe should be affected throughout its whole substance, that there should be coincident pleurisy and that the trachea and bronchi should remain intact or become only secondarily affected.

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Such pathological conditions did not result from his experiments. The affection of the lung in all cases presented similar characters to those of catarrhal pneumonia. Pleurisy was invariably absent, and the trachea and bronchi, when diseased at all, were primarily affected, the lungs secondarily. (Am. Jour. Med. Sci., 1878, P. 258).

2. Croupous pneumonia is not a local inflammatory process due to exposure to cold.

The argument in favor of this proposition is that every physician of large experience knows, without reference to statistics, that pneumonia occurs without a previous chilling. Grisolle and Ziemssen have given some figures upon this point.

In Grisolle's cases, forty-five only out of two hundred and five patients referred their illness to taking cold; about twenty per cent. About ten per cent. of this number experienced pneumonic symptoms at the time, or a few minutes subsequently, to exposure. Ziemssen's figures cover one hundred and eighty-six cases. Ten of these ascribed their illness to chilling. In some of these ten cases a half hour constituted the interval and the attack. Hence, from these figures, and from the well known fact that chilling of the body is absent in many cases that come under the care of the private practitioner, it is assumed that exposure to cold in this manner is only a coincidence and not a cause of pneumonia. (Ziemssen, Vol. V, P. 31.)

It is admitted that exposure to daily variations of temperature favors the progress of pneumonia, but this is quite a different thing, from the view that such exposure sustains a causative relation to pneumonia. And very different from the common belief that a sudden wetting, or sleeping out over night, or exposure to ill-defined inclemencies of the weather, is the direct exciting cause of the disease. Soldiers on the march are less affected than those in garrison. Mariners at sea are less subject to the disease than those on shore.

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Farm laborers have the disease less frequently than mechanics. The occupants of prisons exhibit a marked susceptibility to the disease. The effect of the cold winds of an elevated locality is not settled.

3. Croupous pneumonia has a different geographic distribution from that of bronchitis and catarrh. Bronchitis and catarrh increase in frequency as we proceed from the tropics to higher latitudes. It is not so with pneumonia.

It occurs in all latitudes with much the same frequency. Places having the same latitude may show the same ratio of mortality, and again places having the same ratio of mortality may be situated in different latitudes and under entirely different climatic conditions. The mortality is ten times greater in England than in Ireland; the latitude about the same. New York and Copenhagen show the same ratio of mortality.

4. The curve which indicates the mortality of pneumonia during a series of years presents marked annual variations. The curve which indicates the mortality of the local inflammatory diseases shows but slight annual variations during the same series of years. A significant feature of this graphic representation of the subject is that the curve for typhus exhibits a sort of parallelism to that of pneumonia through the same series of years. (1840–1856 City of London).

5. The anatomical changes are distinct. Engorgementred and gray hepatization, and the localization of the exudation (coagulable in the alvioli and bronchiolis) do not occur in any other pulmonary affection and cannot be produced by any of the ordinary causes of inflammation.

In croupous pneumonia the lungs are acted upon by an irritation which not only excites the ordinary lesions of inflammation, but by its special action upon the epethelium produces a coagulable exudation in the alviola. The phenomena of a local inflammation have been often induced, but in the attempts to induce a croupous pneumonia, one pathological con-

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dition has been invariably absent, and the invariable absence of this condition argues the absence of an antecedent element necessary to its production.

6. The local and febrile symptoms have no casual connection. Quantitative changes of one kind are not followed by quantitative changes of another kind. Consolidations of small volume often are accompanied by the severest fever and marked constitutional symptoms, while solid infiltrations are accompanied by moderate fever and general disturbance. Such is the rule and not the exception.

The proposition that *individual conditions* furnish a consistant explanation of this is untenable. The local pulmonary symptoms often remain for weeks after the temperature has fallen to normal, the patient feeling quite well.

7. Croupous pneumonia runs a typical course. Like the varieties of the typhoid group, like intermittent fever and like all the diseases regarded as infectious, it has a period in which the morbific cause is the apparent controlling force and a period in which the vital resources again regain control.

Bronchitis, pleurisy and other local inflammatory diseases do not conform to this law. Throughout the entire course of these diseases the vital resources of the patient control the situation, just as in the restorative period of the infectious diseases.

8. Croupous pneumonia presents certain epidemic features. In 1814 Laennec described an affection which prevailed among the conscripts and called it epidemic pneumonia. Hirsch formed a list of a series of similar epidemics occurring between 1821 and 1858.

A remarkable epidemic called pleuro pneumonia started in Canada during the war of 1812, extending far in a southerly direction.

The etiological and anatomical characters of these epidemics

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were not closely investigated, so overwhelming was the belief in the local inflammatory nature of the disease.

Within the last few years a series of outbreaks have occurred in different prisons and have received the name of pythogenic pneumonia from Dr. Rodman and others. Overcrowding and bad hygenic conditions were assigned as causes, but it is difficult to explain why these should result in a pneumonia. It is as fair to assume that the specific conditions favorable to the development of pneumonia were present, as it is to assert that pneumonia cöexisted with other contagious diseases, and still preserved the character of a local inflammatory affection. If the morbific agent was intensified, it is no valid argument against its specific character that it did not attack by preference the right lower lobe, for the diphtheritic membrane is not always primarily formed in the pharynx, nor are the distinct lesions of typhoid fever in a particular group of peyers glands.

The blending of different fevers may be an admitted doctrine. It may moreover be true, but the fevers may be both specific.

9. In a typical case of pneumonia the crisis comes suddenly while the inflammation is at its height. This phenomena also occurs in other affections due to a specific agent.

10. It is admitted that quinine and other antizymotic agents have a marked effect upon the course of many cases of pneumonia, some claiming that its use will cut short the progress of the disease, or at least modify it as in intermittent and remittent fevers.

In opening the discussion of this question, it is in place for us to give a brief abstract of some of the objections to the claim that croupous pneumonia is a zymotic fever.

It is only in recent years that doubts have arisen in regard to pneumonia being other than a local disease; indeed, it was thought to be settled beyond question. And it was consid-

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ered a *typical* local disease. But few have dared to doubt that ordinary catarrhal and interstitial pneumonia are phlegmasias, with the elements of general pyrexia, local hyperæmia and local exudation; and though our positive knowledge of even these forms of pneumonia is very limited, it is reasonably probable that they are caused by exposure to cold, especially to the chest, where the susceptibility has been increased, and conservation resisting powers lessened by previous state of health, ordinary malarial influence being a predisposing element. But of croupous pneumonia we can but think the evidences accumulate that it is an essential or zymotic fever induced by a specific cause, "the pulmonary inflammation the chief symptom, and can no more be produced by the ordinary causes of inflammation than can the characteristic lesions of typhoid fever." Or certainly we cannot say less than that "we are at a halting-place, waiting and seeking for facts to aid us in the solution of the question."

To conclude we add:

1. No boundary line can be drawn between the exudation in croupous and catarrhal pneumonia. The products of inflammation, cells, and transuded material, are present in the one case and in the other. All degrees of transition in the qualities of the exudation exist. The febrine factor is a variable. Fatty degeneration and softening overtake the exudation as in other cases of inflammation. The relation of the part affected to the distribution of the pulmonary artery, and the peculiarities of the circulation in the lungs may explain what is regarded as the specific ingredient of the exuded material.

2. Buchan and Arthur Mitchell have not found the mortality curve for pneumonia exhibiting a parallelism to that of typhus but rather to that of bronchitis. Ziemssen drew his curve from the mortality reports of London from 1840 to 1856. During this period, and up to 1869, deaths from all fevers

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entered into the mortality reports. Typhus fevers prevailed in London from 1840 to 1856, more or less. No value can be placed upon the significance of a curve resting on such reports as a basis.

3. The arguments which, in the main, can be urged for the infectious nature of pneumonia apply also to bronchitis, pharyngitic and tonsillitis.

4. It is true in pneumonia the fever often abruptly terminates, while the local lesion persists; but this is a frequent occurrence in embolic pneumonia, in which no specific fever can be assigned as the cause, and which is regarded as a purely local process.

5. The period which succeeds the crisis, and which is under the control of the conservant force, does not form part of the febrile process.

6. The extension of the disease to other portions of the lung, that is a new local lesion, is followed by an increase in the pyrexial symptoms.

7. Pneumonia persists in a chronic form as interstitial pneumonia, due to a croupous exudation, which has not undergone absorption and elimination.

DISCUSSION.

Dr. Davis followed Dr. Cook, remarking at considerable length on the the nature ofpneumonia, and claiming that it is a local inflamation in the same sense as bronchitis, pleurisy, or meningitis.

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DISCUSSION ON FEVER.

By N. S. Davis, M. D., Chicago.

The next question, "what is the therapeutic value of antipyretics in fevers," was discussed by Dr. N. S. Davis, who said:

I feel reluctant to enter upon the discussion of the question before us with so limited an amount of time; not that I wish to occupy more, but because it will cut off what I had hoped to enjoy, a free interchange of opinions. The subject is one of very great importance. All of you are aware that within a few years our attention as practitioners of medicine, has been attracted prominently to the use of what has been termed antipyretics in the treatment of fevers, more especially of continued fevers, such as typhoid and typhus. So much and so prominently has it been urged upon us, that a practitioner would be regarded as derelict in his duty if he did not, with his clinical thermometer, measure the temperature with one hand and apply the remedies that will reduce it with the other; as though fever and heat were one and the same thing, or that the only thing necessary to do is to keep the temperature within certain limits, to carry the patient safely through his distress. This idea has taken such prominence that I fear in the larger cities and hospitals it has not always resulted beneficially to the patients. The treatment of a symptom instead of the treatment of the morbid actions, on which the symptoms depend is unphilosophical, and in most instances leads to injurious results. But while fever means heat, yet when we use the word fever to indicate disease, we do not use it in the sense of heat simply. If a certain degree of heat alone con-

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stitutes fever, then truly all we should have to do would be to find a remedy to reduce the heat, and the disease would be ended; but instead of that, all experience shows that although we may use antipyretics, and reduce the temperature to the natural standard, it takes but a few hours to come up again. We may reduce it but it will come again. It merely shows that temperature is only a symptom derived from certain morbid actions in the system, and to treat that symptom is as unphilosophical as it would be to treat diarrhœa alone in typhoid fever. But time will not permit me to discuss the question as to what is the source of high temperature in fever, what occasions this prominent symptom of disease. I will only suggest this, in studying the laws which govern the evolution of heat, we learn that heat is latent and sensible. Everywhere in animate as well as in inanimate nature, wherever matter passes from a rarer to a denser condition heat is evolved, and wherever matter passes from a denser to a rarer condition, heat is rendered latent or absorbed, and the temperature falls. This being the general law, it applies to living as well as dead matter. There are other forces that will modify heat in living bodies to some extent, and yet they do not destroy the law. We take matter in the æriform state into the lungs; it is held in suspension in the blood in the form of oxygen, and distributed through the system and enters into various combinations.

This æriform oxygen undergoes changes until reaching in its combinations much more dense conditions, although we cannot follow it in all its successive stages. So we take food in various states, liquid and solid. We recombine it and assimilate it until out of that food we have the elements of the blood, and as that blood is carried through the system, there is a power or property which enables each individual structure, muscular, nervous and vascular to select from the blood as it passes through the delicate capillary vessels the material necessary for its own repair. The muscular takes that which makes

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muscle, the nerve fiber takes that which makes nerve, and so on through the organization. These successive changes alter temperature, evolve heat. When we have long fasted, if we take a full meal and measure the temperature before we eat and an hour afterward, we shall find one or two degrees higher temperature after eating; and the longer you go without eating the lower the temperature will go. The products of tissue changes are returned into the blood and carried with it through the system. Some goes to the lungs and is breathed out in the form of carbonic acid gas, constituting a very active, cooling process. Instead of the old theory that the lungs act the part of a furnace, the process of respiration, so far as exhalation is concerned, is an active, cooling process. When a dog lolls in summer and breathes as fast as he can, he is acting the part of a philosopher and is cooling himself.

Other matters reach the kidneys and are separated in the form of urine: still other waste materials reach the skin and are separated in the form of cutaneous exhalation, which, in passing from the fluid to the vaporized form, converts much free, into latent heat and exerts an active, cooling influence. These two processes, the warming and the cooling, are taking place continually in all living beings. In the animal kingdom the temperature varies very much in the different species of animals. A bird has a rapid pulse and respiration, with rapid molecular movements in the tissues, and its temperature is maintained at a high figure; but a tortoise is sluggish and has a slow circulation, slow breathing and slow molecular movements. You may put him up in the branch of a tree and leave him a week and he will not die; while a bird will die in less than half of that time. The cooling and heating processes are in direct proportion to the activity of the movements and changes in the living body.

In fevers the question "what causes the increase of heat" is a very important one. The prevalent opinion stated in the

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books is, that it results from an increase of rapidity in the tissue change or tissue disintegration. But generally disintegration is a cooling process. It is the building up process that warms, and in fever the building up is almost stopped; the appetite is gone, the digestion diminished, and yet the temperature rises. It has been usual to attribute this to increased tissue changes; but if you examine, you will find the bronchial membrane dry in continued fever, the urine scanty, and all exhalations in the aggregate diminished. The consequence is that the diminution of the processes of cooling allow even a slower evolution of heat to result in an increase of the temperature of the body. The evolution of heat may be less than in health, and yet the diminution in the processes of elimination may be relatively so much greater as to cause an increase of the temperature. But there is another influence worthy of consideration. If you watch a patient with a continued fever of any kind, in the early stages of its progress when the skin is dry, the eliminations scanty, the mouth dry and parched, the exhalations from the lungs diminished, so that all the processes tending to cool the system are absolutely diminished, and the patient is calling for water, and drinks perhaps three times as much as he would take in the same time in health, you may ask: "What becomes of the water?" It is not fully accounted for in the exhalations from the skin and lungs or kidneys. It is a clearly-established fact that in fever under such circumstances the amount of water used is far more than can be accounted for by the amount eliminated from the system. What becomes of it? I have no doubt but the water taken up enters into combination with the elements of the tissues, and in that very combination more or less heat is evolved. Besides, by the arrest in the rapidity of molecular change the old atoms are retained beyond their natural life-time, and if held in the organization beyond its natural life it deteriorates. The longer it is held the more it

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degenerates. Consequently, almost all the tissues of a patient who has suffered three or four weeks with typhoid fever, show evidences of more or less fatty transformation. It is probable that some of the water which disappears in the system is used in these molecular deteriorations. If so, this might be another source of fever heat.

Let us now turn our attention to some of the antipyretics. There are three ways of reducing temperature—one is by directly increasing the processes that naturally diminish the amount of natural heat. An increasing evaporation from the cutaneous surface, and of the exhalation of aqueous vapor from the lungs, and a diminution of the active molecular changes in the tissues, would result in lowering the temperature of the body by what I have called the natural cooling process. A direct increase of the natural cooling processes may be brought about by an application of water, continuously or by frequent sponging of the surface of the body, or by the giving of remedies that will produce increased elimination from the surface, sudorifics, and from other actively secreting structures, such as diuretics, expectorants, etc.

Another method consists in diminishing the force and frequency of the heart's action. If we act on the heart in such a way as to make its action slow or diminish its force, we diminish the rapidity of the molecular changes and the temperature falls. The heart sedatives are therefore anti-pyretics. If we act in another direction and bring remedies to bear upon the vaso-motor nervous system in such a way as to induce an increased action of the muscular fibres of the vessels, and thereby diminish the amount of blood in circulation, we diminish the temperature. When the circulation in any part is increased the temperature rises; consequently, if we use remedies that act either upon the heart directly, or indirectly upon the vaso-motor nervous system in such a way as to diminish the amount

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of blood circulating in the part we shall influence the temperature in the same direction.

The third mode of influencing the temperature is by agents that I think are capable of producing an effect by their presence directly on the properties of the tissues themselves. I am aware that our works on physiology recognize no such properties. The physiologists hardly give an idea that living matter is capable of being impressed or acted upon in any other way than through nerve agency. If there is nothing in living matter, however, capable of receiving impressions except nerve structure, how does the germinal cell commence its development? And how does the nerve itself come into existence?

To answer these questions we must admit that the germinal cell of the ovum has properties inherited from the living organization in which it originated. It has the property of susceptibility or capability of being impressed as living matter independent of nerve or any other structure. Being impressed, it has an affinity that regulates the molecular movements and causes every atom to be put in its proper place, and the whole to grow in definite directions and to produce definite results. Admitting the existence of such properties, it becomes evident that whatever is capable of increasing or diminishing the activity will also increase or diminish the molecular movements, and change the temperature. Cold diminishes susceptibility, but cold increases the attraction of atom for atom; heat separates. They are opposing forces, and so I say that beyond the simple ingress and elimination, there are agents capable of acting upon the primary properties of the tissues, and by their presence in the blood in contact with those tissues increase or diminish molecular changes.

Keeping in mind the three modes of influencing temperatures just described, let us inquire into the *modus operandi* of the more important anti-pyretics.

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One of the most efficient anti-pyretics is simple water, either so applied to the surface as to keep up active evaporation, or by immersion in a bath below the temperature of the body. These applications to the surface not only reduce the temperature directly, but indirectly also, by exerting a reflex influence on the vaso-motor nervous centres which modify the circulation in the internal organs.

Next to water as an anti pyretic stands quinine, salicylic acid, digitalis, and such cardiac and nerve sedatives as aconite, veratrum and gelseminum. They act chifley on the heart, and the vaso-motor nervous system. Aconite and veratrum viride in their use as anti-pyretics have to be employed guardedly on all the lower types of fever, because they diminish the force of the heart and tend to produce undue debility. But the quinine and salicylic acid act largely directly on the properties inhering in the tissues. When quinine is taken into the system it is a powerful sedative to susceptibility. It directly diminishes it and increases affinity. This affords an explanation of the old controversy as to whether quinine is a tonic or a sedative.

It increases the tonicity of the system and diminishes susceptibility, thereby acting as a tonic to one property and as a sedative to the other. In large doses the latter effect overwhelms the former, and strongly depresses both molecular changes and temperature. If the doses are increased sufficiently, it is capable of rendering the patient not only deaf and blind, but profoundly insensible to all impressions. Cases illustrating these effects were referred to by the speaker. He said it was necessary to carry it far enough to make a stron impression in order to get a positive antipyretic influence. Both clinical experience and experiments on animals show that salicylic acid has a special sedative influence on the medulla and particular portions of the spinal cord. I am quite certain that it produces an antipyretic effect in relieving the more

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active fevers by bringing the patient near to the point of suspending the sensibility of the vaso-motor nerve-centres in the medulla and upper part of the spinal cord. But when given to this extent, its effects must be carefully watched.

I had a case of typhoid fever in which five-grain doses of salicylic acid were given every four hours. During the last half of the first and extending into the second week, the patient seemed to be doing well, but all at once his pulse fell to less than forty beats per minute and his breathing became extremely slow. At first I was startled, not knowing what had caused the sudden change. All sedatives were stopped, and I put him on the use of carbonate of ammonia and camphor, and in a little while he began to get over it. I have had several cases where salicylic acid brought on a dangerous degree of prostration. Digitalis also acts mainly upon the cardiac and vaso-motor nervous system, and when it acts as an antipyretic, it is principally by its influence over the movements of the heart and its power to increase the renal secretion.

The best and safest of all methods for producing antipyretic effects in the treatment of fevers, is that by which we simply increase the natural processes of exhalation and cooling, namely, the frequent sponging of the surface with water of a lower temperature than the patient. When the temperature needs very active reduction, wrap the patient in a wet sheet; but in nine out of ten cases, sponging will answer the purpose without any danger of disturbing the patient. It requires frequent repetitions in the early stage of the fever, but a full bath in cold water is a process that ought not to be left in the hands of an ordinary nurse. If it is, your patient is liable to become too much depressed, and sometimes passes into a severe chill. This renders the practice very inconvenient for the physician, especially in country districts. But neither bathing nor sponging, or the use of anti-pyretics internally, exert a curative influence on the fever. They merely control certain symptoms, and

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consequently do not materially lessen the duration of the disease.

If I am correct, the same question is involved in the use of quinine and salicylic acid, and any other internal agents as antipyretics, that there is in the use of anesthetics. If you administer an anesthetic capable of so far suspending the sensibility of the cerebrum, as to render the patient unconcious, you may carry them still farther and suspend the sensibility of the medulla oblongata, and centers at the base of the brain, but they effect the cerebrum first. If you stop with suspending the sensibility of the cerebrum, your patient is safe. Just so when you give quinine, or salicylic acid or digitatils, if you can so gauge the amount as to diminish sensibility and molecular changes just far enough to bring the temperature to where you want it, the patient is safe, and you will gain your object. If you happen to go one step beyond, your patient is either dangerously depressed, or some important function seriously impaired. It is a question whether the resort to large doses of active medicines to control a single symptom of any given disease is justifiable—whether the risk of doing injury is not more than an offset for the real advantages gained? I am satisfied that it is one of those extremes of medical practice which should be resorted to only in well considered emergencies.

While antipyretics are of use within reasonable limits and comfort our patients, still nothing in their history shows that they cut short the disease. Dr. Flint says they neither cut short the disease nor lessen the ratio of mortality. All that has been gained in our efforts to reduce the mortality of continued fever by heroic antipyretic treatment has simply been obtained by substituting this for a worse treatment that existed before. The highest degree of success ever attained by antipyretic treatment is to reduce the ratio of deaths to ten per cent. Dr. Wood long ago, when in charge of the Pennsylvania Hospital, told us that his ordinary ratio of mortality

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was one in twenty to one in twenty-five, instead of one out of four or six. So far as I am concerned, the ratio of mortality has never, either in hospital or private practice, reached anything like ten per cent. During the last six months I have been endeavoring to find some general alterant and antiseptic that would, by introduction into the system, tend to counteract those morbid molecular influences which produce molecular degeneration. We have had plenty of experience with mercury, which, used carefully, will modify the progress of typhoid fever; but there is this difficulty, that it diminishes when used in the form of calomel or blue mass, the plasticity of the fluids, and increases the danger of excessive evacuation, so that you can hardly use it except in the early stages of the disease. What we want is some agent that will act as a general tonic, and sustain the susceptibilities of the organization. Years ago I tried bromine, when it was first proposed as an antiseptic and general alterant. I administered it during the first week of typhoid fever, and with benefit; but it is very pungent and difficult to use. During the last year or two iodine has been suggested, and I recollected that we had long been familiar with it as one of the most efficient antiseptics and general alterants.

I commenced using it in the treatment of typhoid fever about seven month ago, using it both in my private practice and in the hospital, and now I think the two cases at present in the hospital make up thirty cases treated with iodine. Some of the hospital cases were not brought in until the end of the second week, a few before the end of the first week. In private cases we see them earlier. I use an aqueous solution of iodine as a general alterant and antiseptic and as the leading remedy. If the bowels get too loose I use the turpentine emulsion for the purpose of repressing excessive evacuations, employing the iodine as a steady regular internal remedy; and of these thirty cases one has died, and only one. The run of

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the disease has been shortened from three to six days and there have been less complications. The case that died was brought into the hospital in the second week, complicated with broncho-pneumonia and laryngitis. He showed signs of convalescing, but was suddenly attacked with œdema of the larynx, and, though temporarily relieved by tracheotomy, he died.

What we want is a general alterant and antiseptic, not debilitating and yet effective. I have generally prescribed eight grains of iodine, thirty grains of iodide of potassium in an ounce and a half of distilled water, and have given an adult twelve to fifteen drops of the solution diluted with plenty of sweetened water, every four hours.

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*Graham, D. W.	Chicago	Cook.
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Hurst, N. N.	Chicago	Cook.
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*Ingals, E. F.	Chicago	Cook
*Isham, R. N.	Chicago	Cook.
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*Jenks, E. W.	Chicago	Cook.
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*Johnson, J. Perrin	Jacksonville	Morgan.
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*Jones, H. W.	Chicago	Cook.
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*Jones, S. J.	Chicago	Cook.
*Judd, H.	Galesburg	Knox.
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Names.	Post Office.	County.
Lane, I. R.	Peoria	Peoria.
Lasher, G. W.	Carrollton	Greene.
*Lee, E. W.	Chicago	Cook.
*Leeds, L. L.	Lincoln	Logan.
Leonard, R. L.		
*Lester, G. B.	Oswego	Kendall.
*Lichty, D.	Rochelle	Ogle.
Little, Jehu	Bloomington	McLean.
*Littlefield, H. H.	Beardstown	Cass.
Livinggood, Jno.	Rossville	Vermilion.
*Lord, F. H.	Plano	Kendall.
Lord, R. S.	Springfield	Sangamon.
Lovewell, C. H.	Englewood	Cook.
*Lucas, G. W.	Mound Station	Brown.
Lucas. B. C. K	Peoria	Peoria.
Lyman, H. M.	Chicago	Cook.
Maclay, A. I.	Delavan	Tazewell.
Marshall, S. W.	Sparta	Randolph.
Martin, H.	Canton	Fulton.
Massie, Wm.	Paris	Edgar.
*Matthews, F. L.	Springfield	Sangamon.
Matthews, J. P.	Carlinville	Macoupin.
Maxwell, J. H		
Maxwell, T. J	Biggsville	Henderson.
Maynard, W. J.	Chicago	Cook.
McCaughey, T. C.	Hoopeston	Vermilion.
McClelland, M. A.	Knoxville	Knox.
*McDermith, S. F.	Cowden	Shelby.
*McDonald, P. S.	Chicago	Cook.
McFarland, A.	Jacksonville	Morgan.
*M Ilwain, T. M.	Peoria	Peoria.
*McKenzie, W. R.	Chester	Randolph.
*McKinney, J. G.	Barry	Pike.
*McLean, Jno.	Genoa	DeKalb.
*McMann, W. W.	Gardner	Grundy.
*McMurray, R. J.		
*McNarry, W. H.	Martinville	Clark.
McVey, R. E.	Waverly	Morgan.
*McWilliams, S. A.	Chicago	Cook.
*Mendenhall, W. O.	Georgetown	Vermilion.
Merriman, H. P.	Chicago	Cook.
Meserve, A. G.	Robinson	Crawford.
Miller, A. J	Paris	Edgar.
Miller, De Laskie	Chicago	Cook.
*Miller, J. S.	Berdan	Greene.

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Names.	Post Office.	County.
Miller, T. W.	Chicago	Cook.
*Mitchell, R. J.	Girard	Macoupin.
*Mileham, S.	Camp Point	Adams.
Million, J. L	Springfield	Sangamon.
*Montgomery, L. H.	Chicago	Cook.
*Montgomery, W. T.	Chicago	Cook.
Moore, D. O.	Bloomington	McLean.
Moore, W. J.	Danville	Vermilion.
Moorhouse, H. W	Danville	Vermilion.
*Moon, O. W.	Braceville	Grundy.
Mosher, J. H.	Prophetstown	Whiteside.
*Murphy, John	Peoria	Peoria.
Myers, J. L.	Petersburg	Menard.
Nash, W. R	Ridge Farm	Vermilion.
*Nelson, D. T.	Chicago	Cook.
*Newcomer, J. W.	Petersburg	Menard.
Newman, H. P.	Chicago	Cook.
*Nesbitt, G. W.	Sycamore	De Kalb.
*Norred, C. H.	Lincoln	Logan.
*Norred, Elizabeth S.	Lincoln	Logan.
*Norris, A. L.	Farmer City	De Witt.
*Owen, D. W.	Herman	Brown.
*Owens, J. E.	Chicago	Cook.
Park, Roswell	Chicago	Cook.
*Parke, C. R.	Bloomington	McLean.
*Parker, C. E	Beardstown	Cass.
*Parkes, C. T.	Chicago	Cook.
Parsons, William	Chicago	Cook.
Parsons, W. M.	Curran	Sangamon.
Patterson, N.	Ellsworth	McLean.
Patterson, R. J.	Batavia	Kane.
Pierce, W. P.	Lemont	Cook.
Penniman, A. B.	Woodburn	Macoupin.
Pipino, W. C.	Quincy	Adams.
Pitner, F. R.	Clay City	Clay.
*Pitner, T. J.	Jacksonville	Morgan.
Plummer, S. C	Rock Island	Rock Island.
Polk, L. J.	Arcola	Douglas.
Powell, A. M.	Collinsville	Madison.
Powell, E.	Chicago	Cook.
Prentice, T. W.	Urbana	Champaign.
*Prewett, R. C.	Marshall	Clark.
*Prince, A. E.	Jacksonville	Morgan.
*Prince, D	Jacksonville	Morgan.
Pritchard, E. J.	Georgetown	Vermilion.

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Names.	Post Office.	County.
Ragan, G. T	Neola	Cumberland.
*Rauch, J. H.	Chicago	Cook.
Rankin, A. C.	Pullman	Cook.
*Ransom, W. L.	Roscoe	Winnebago.
Reaburn, J. J.	Denver	Hancock.
*Read, N. S.	Chandlerville	Cass.
Reber, C. T.	Shelbyville	Shelby.
*Reeder, I. H.	Lacon	Marshall.
*Reno, H. C.	Albion	Edwards.
*Rich, K. E.	Wenona	Marshall.
Richey, S. O.	Washington, D. C.	
*Robbins, Jos.	Aurora	Kane.
*Robbins, M. M.	Aurora	Kane.
Robinson, F. C.	Wyanet	Bureau.
*Rogers, T. M.	Fairfield	Wayne.
Rood, J. B.	Lemont	Cook.
*Rooney, M.	Quincy	Adams.
Roskotten, R	Peoria	Peoria.
Ross, J. C.	Lincoln	Logan.
Ross, J. P.	Chicago	Cook.
Rumsey, G. W.	Magnolia	Putnam.
*Sargent, A. M.	Lincoln	Logan.
Saunders, R. A.	Galesburg	Knox.
Schifferstein, L. J.	Olney	Richland.
*Seamen, M. W	Shipman	Macoupin.
Secrist, C.	Watseka	Iroquois.
Seeley, T. P.	Chicago	Cook.
Sibley, C. W.	Fairfield	Wayne.
*Silverthorn, L. L.	Charleston	Coles.
Simon, C. B.	Chicago	Cook.
*Shaefer, F. C.	Chicago	Cook.
Shaw, Eliza A.	Bloomington	McLean.
Shinn, W. R.	Wallace	De Kalb.
Shwisher, E.	Canton	Fulton.
Skinner, J. T.	Peoria	Peoria.
Slater, Catharine	Aurora	Kane.
Slemmons, D. M.	Benson	Woodford.
Small, A. R.	Decatur	Macon.
Smiley, J. C.	Kewanee	Henry.
*Smith, C. F	Danforth	Iroquois.
*Smith, Charles Gilman	Chicago	Cook.
Smith, Lee	Bloomington	McLean.
Spaggs, L. H.	Ellsworth	McLean.
Sparling, W. H.	Moawequa	Shelby.
Spear, J. W.	Mason City	Mason.

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*Starkey, H. M.	Chicago	Cook.
*Starkweather, R. E.	Chicago	Cook.
Steele, A. T.	Ashmore	Coles.
*Steele, D. A. K.	Chicago	Cook.
Steele, J. M.	Grandview	Edgar.
*Stewart, J. H.	Exeter	Scott.
Stewart, J. T.	Peoria	Peoria.
Stewart, T. N.	Riggstown	Scott.
Stillians, D. C.	Chicago	Cook.
*Swope, J. M.	Arenzville	Cass.
*Tagart, A. H.	Chicago	Cook.
*Tandy, Wm. M.		
Taylor, C. S.	Chicago	Cook.
Taylor, O. F.	Pellsville	Vermilion.
*Tebo, Geo. H.	Mount Sterling	Brown.
Thompson, Mary H.	Chicago	Cook
*Thompson, L. G	Lacon	Marshall.
*Tibbetts, L.	Rockford.	Winn bago.
Todd, J. F.	Galva	Henry.
Tope, J. W.	Oak Park	Cook.
Townsend, J.	Springfield	Sangamon.
Travers, E. R.	Amboy	Lee.
Truesdale, C	Rock Island	Rock Island.
Tyree, W. A.	Wapella	De Witt.
Van Dyke, J.	Ashmore	Coles.
*Van Horn, A. K.	Jerseyville	Jersey.
*Veatch, W. H.	Carthage	Hancock.
Vosburg, D. M.	Earlville	La Salle.
Wadsworth, J. L. R.	Collinsville	Madison.
*Wagner, J. A.	Quincy	Adams.
Walker, J. A.	Mason City	Mason.
Walker, J. P	Mason City	Mason.
*Walker, Wm. P.	Mason City	Mason.
Walker, J. R.	Cutler	Perry.
Walton, Jane E.	Chicago	Cook.
Walton, M. W.	Ridott	Stephenson.
*Ware, Lyman	Chicago	Cook.
Washburn, T. D.	Hillsboro	Montgomery.
Waters, J. W.	Lexington	McLean.
*Watson, W. S.	New Holland	Logan.
Webster, J. C.	Chicago	Cook.
Webster, I. R.	Monmouth	Warren.
Weidman, P. S.	Marine	Madison.
*Welch, W. W.	Galesburg	Knox.
Weller, F. M.	Chicago	Cook.

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Names.	Post Office.	County.
Wells, Ira R.	Geneseo	Henry.
Wenger, E.	Gilman	Iroquois.
*West, Washington	Belleville	St. Clair.
West, J. M.	Williamsville	Sangamon.
Whitcomb, A. L.	Camargo	Douglas.
White, J. L.	Bloomington	McLean.
*Whiteley, J. D.	Petersburg	Menard.
Whitmire, J. S	Metamora	Woodford.
Whitmire, J. W.	Metamora	Woodford.
Whitten, Thos. J.	Irving	Montgomery.
Wilbur, C. T.	Lincoln	Logan.
*Wilder, F. M.	Chicago	Cook.
Willard, E. R.	Wilmington	Will.
Willard, G. E.	Chicago	Cook.
*Williams, J. G.		
Williams, J. S.	Otterville	Jersey.
*Williams, Richard.	Ursa	Adams.
*Willis, O. B.	Dunlap	Peoria.
Wilson, R. M.	Lincoln	Logan.
*Winter, H. A.	Saybrook	McLean.
Worrell, T. F.	Bloomington	McLean.
*Wright, J.	Clinton	De Witt.
Wright, N.	Chatham	Sangamon.
Wylie, S. M.	Paxton	Ford.
Young, H. B.	Monmouth	Warren.
Zeller, Geo. A.	Spring Bay	Woodford.
Ziesing, H.	Peru	La Salle.

Total number of members, 417.

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